Why Theories Matter for Health System Reform

Plan for today

- Plan for the next year
- Presentations on Program theory, health systems reform, health inequities in the morning
- Form teams during the coffee break—choose clinical pathways or another program that is of interest to you
- Group discussion work will happen after lunch
- Before lunch you will have multiple opportunities to reflect on key questions

Program Theory/Theory of Change

- Why and how is the systems reform likely to make a difference

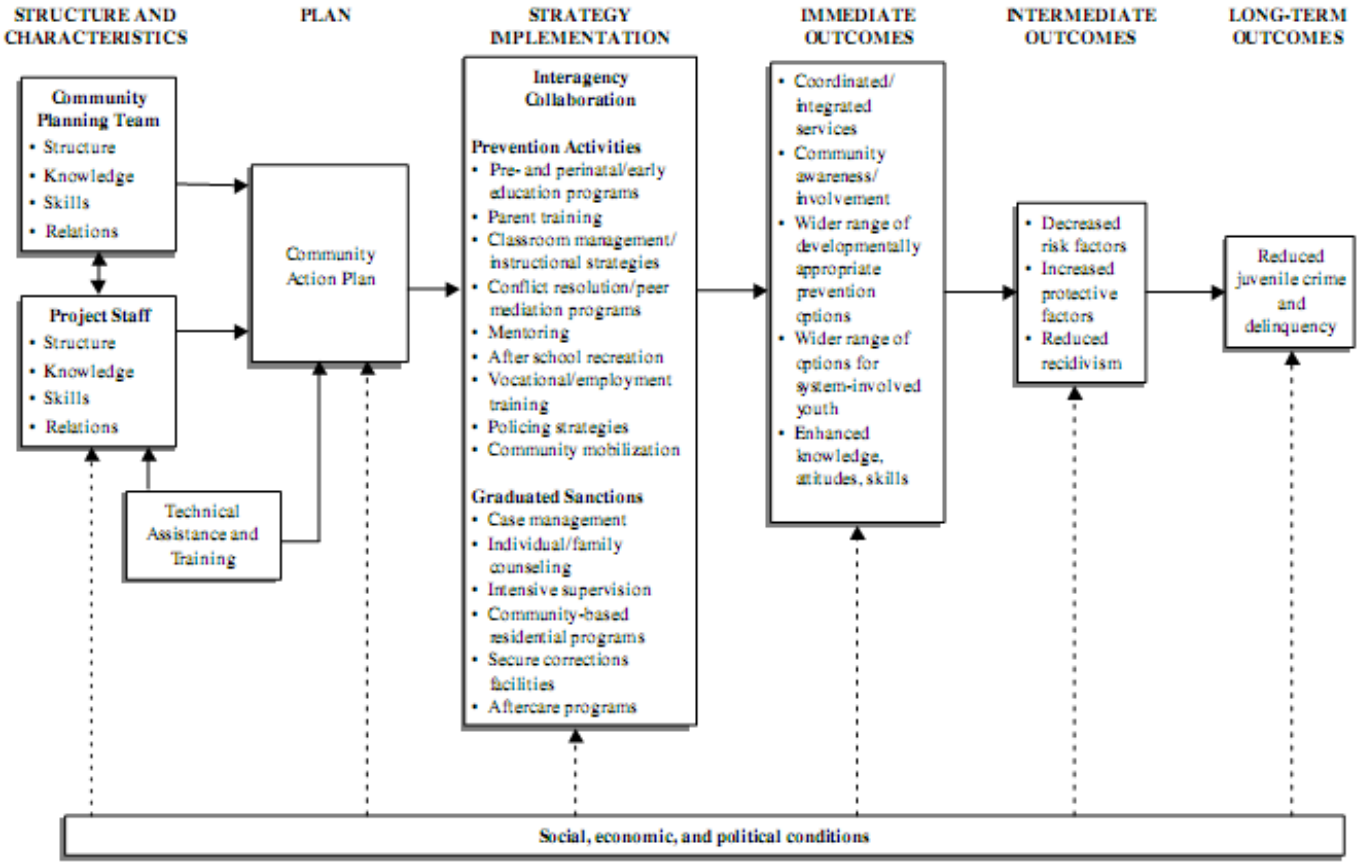
- Describes the connections between system reform activities, multiple types of contexts, outputs and outcomes

Why is theory important

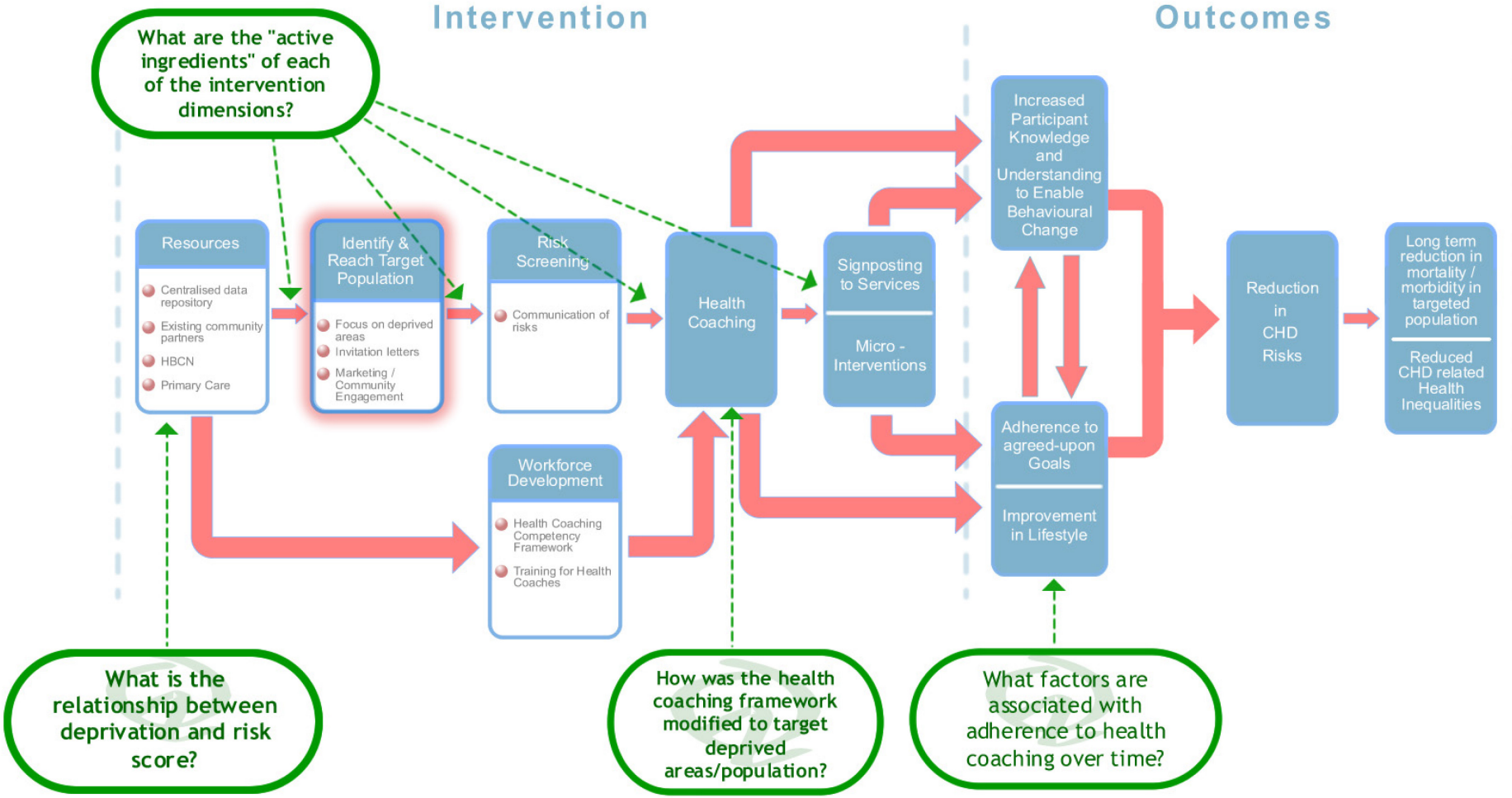
- No causation without theory
- Assists with planning and implementation
- Understands mechanisms of change
- Help with evaluation design

Examples of program theory

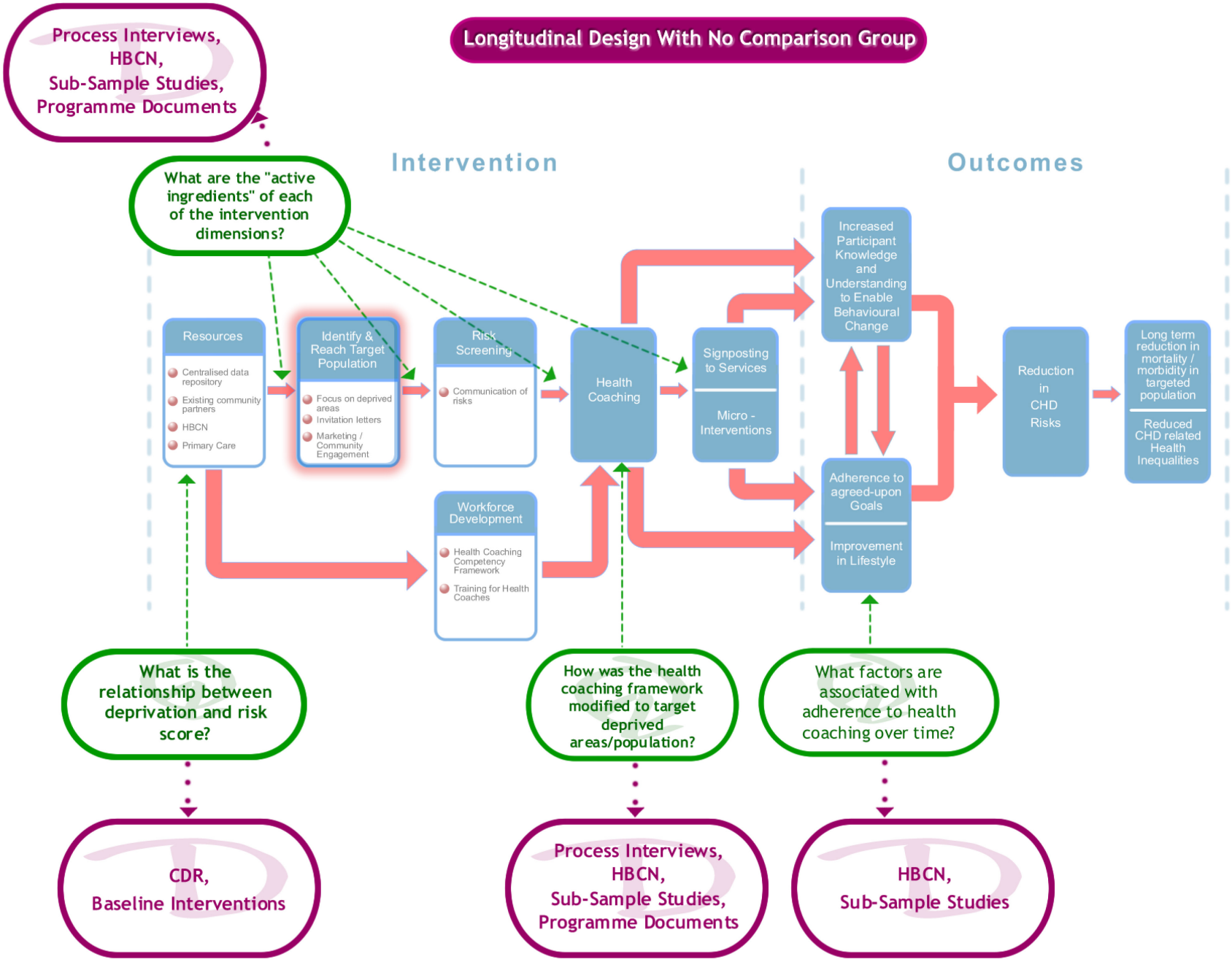
FIGURE 1. ILLUSTRATIVE COMPREHENSIVE STRATEGY LOGIC MODEL



Have a Heart Paisley


Intervention
Outcomes
What are the "active ingredients" of each of the intervention dimensions?
Resources
Centralised data repository
Existing community partners
HBCN
Primary Care
Identify & Reach Target Population
Focus on deprived areas
Invitation letters
Marketing / Community Engagement
Risk Screening
Communication of risks
Workforce Development
Health Coaching Competency Framework
Training for Health Coaches
Health Coaching
Signposting to Services
Micro - Interventions
Increased Participant Knowledge and Understanding to Enable Behavioural Change
Adherence to agreed-upon Goals
Improvement in Lifestyle
Reduction in CHD Risks
Long term reduction in mortality / morbidity in targeted population
Reduced CHD related Health Inequalities
What is the relationship between deprivation and risk score?
How was the health coaching framework modified to target deprived areas/population?
What factors are associated with adherence to health coaching over time?

A Simplified Logic Model for Primary Prevention



Smoking Ban in Scotland

- In March 2006, the Smoking, Health and Social Care (Scotland) Act was implemented in Scotland.

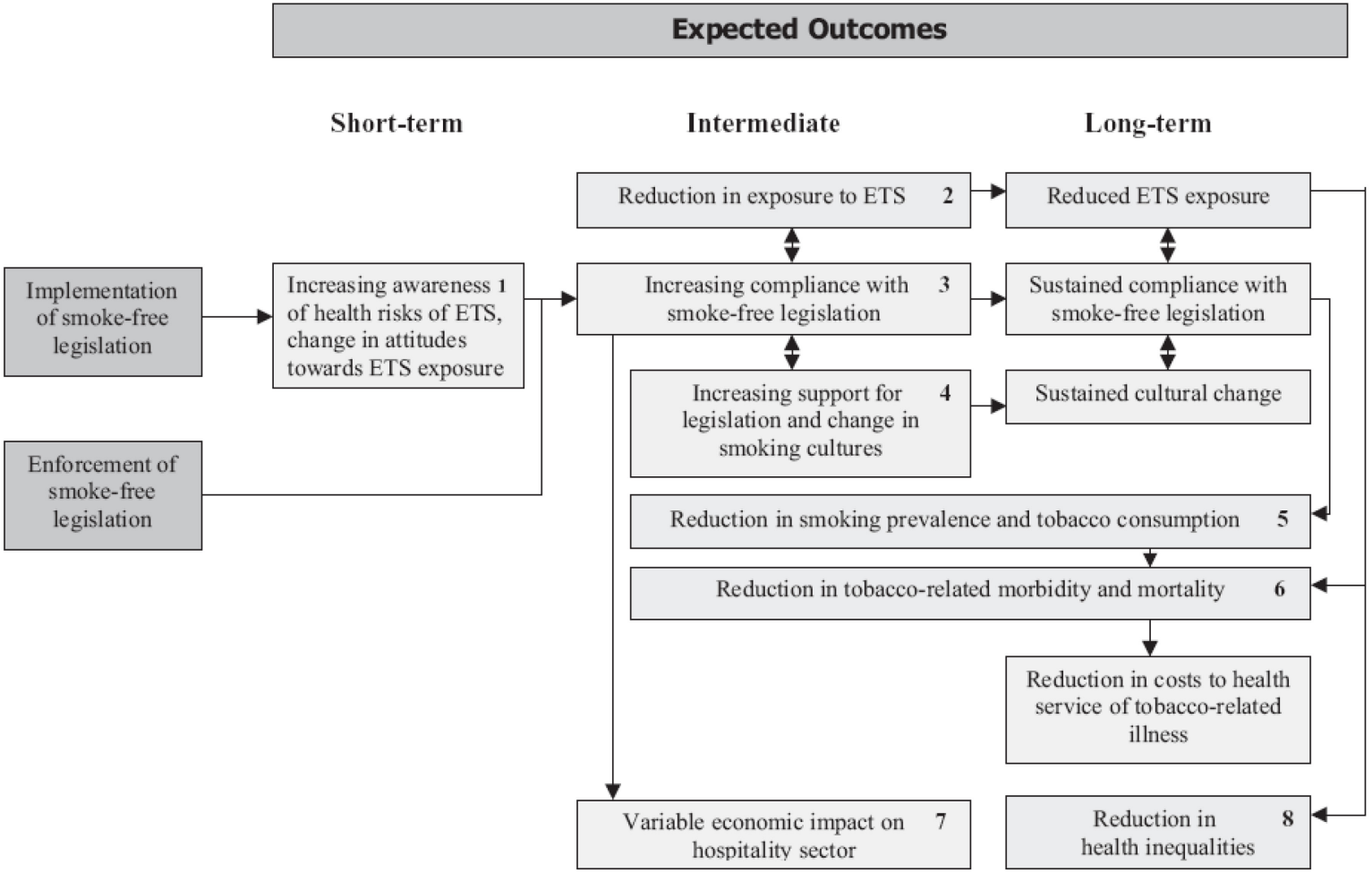


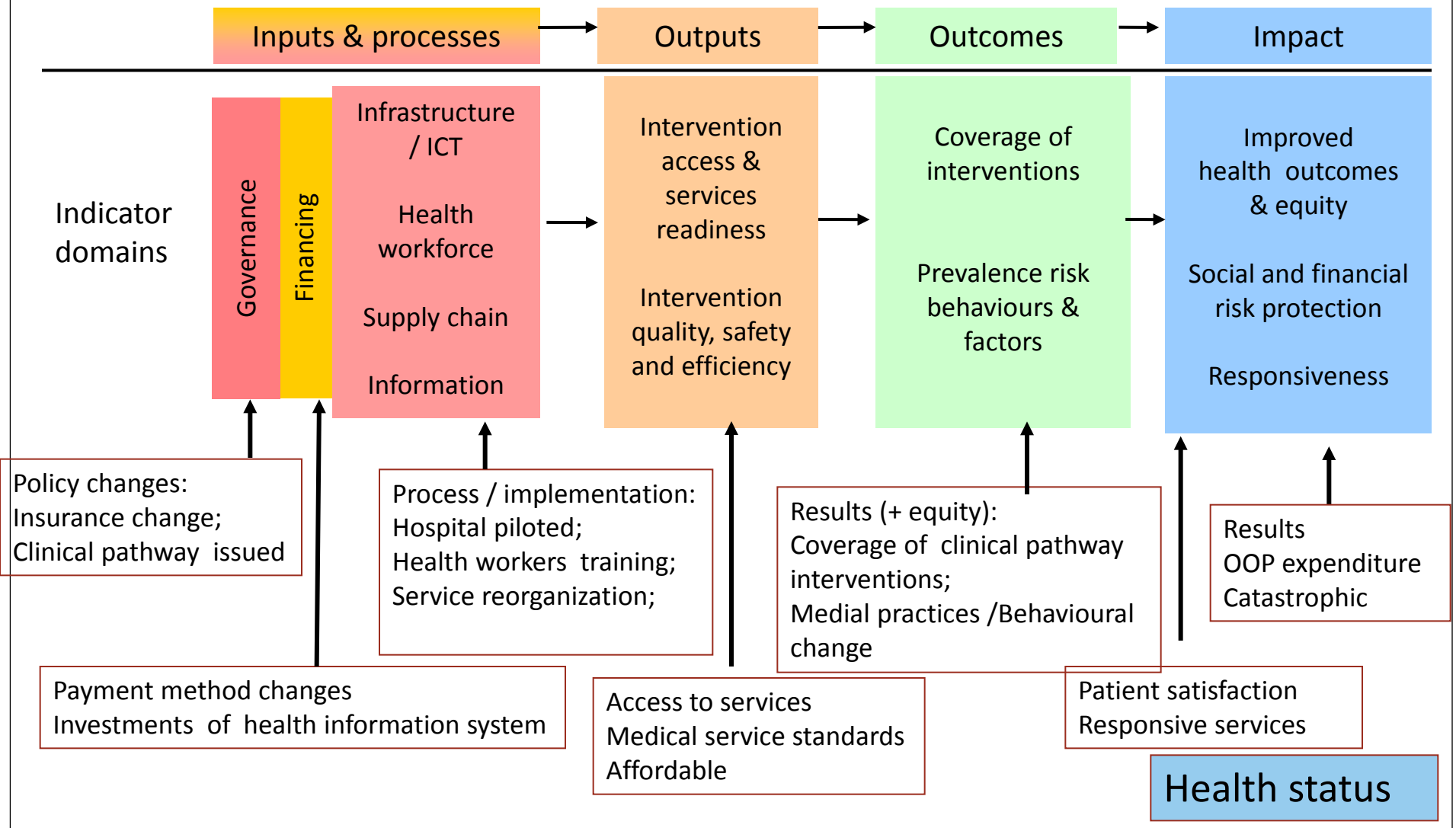
Figure 1 Logic model of expected outcomes associated with smoke-free legislation.

Questioning the implied causal chain of the Smoking Ban

- Implementation of smoke-free legislation → Increased awareness of health risks → Reduction in exposure to ETS → Sustained compliance with smoke-free legislation → Reduction in smoking prevalence and tobacco consumption → Reduction in tobacco-related morbidity and mortality.

- Plausibility and likelihood of the causal chain: Are other mediating mechanisms needed to enhance the likelihood of the causal chain "firing"?

Mapping clinical pathway & compensation reform strategy on to the M&E framework



Context, Mechanisms and Outcomes (Tilley, 2000)

- Mechanism: what is it about system reform that may lead it to have a particular outcome pattern in a given context?
- Context: what conditions are needed for system reform to trigger mechanisms to produce particular outcome patterns?
- Much of this discussion is from Tilley (2000) and Pawson and Tilley (1997).

Context

- "Contexts are contingent conditions that can alter the relationship between the treatment (the program) and the outcomes. Context can refer to country policies, community norms, institutional locations, and cultural systems."

Mechanisms

- A mechanism is "an account of the makeup, behavior, and interrelationships of those processes that are responsible for the outcome."
- Understanding program mechanisms is critical in understanding how system reform will work.
- Discussion on contexts and mechanisms

Figure 1: Context, mechanism and regularity.

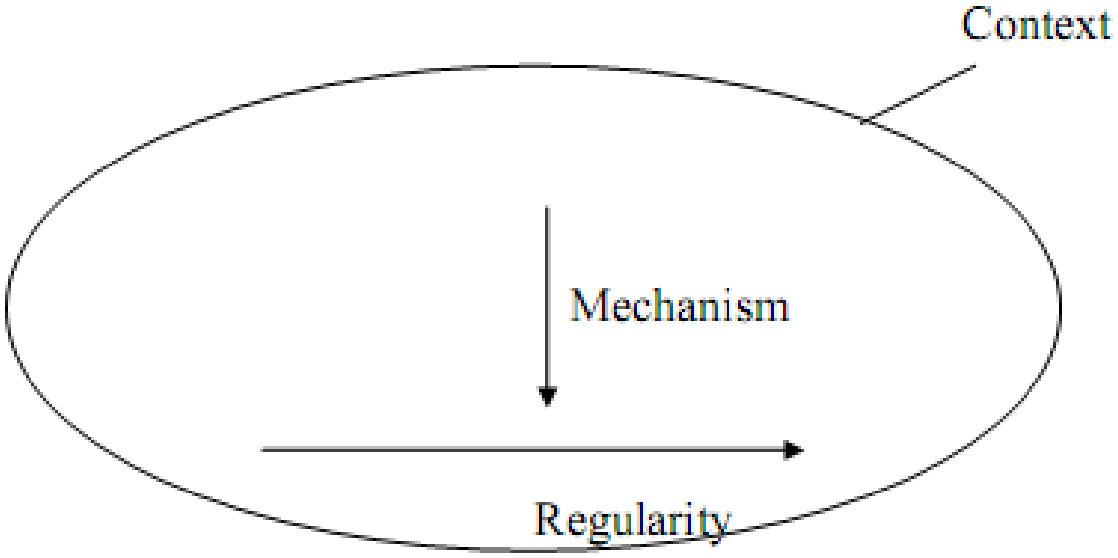
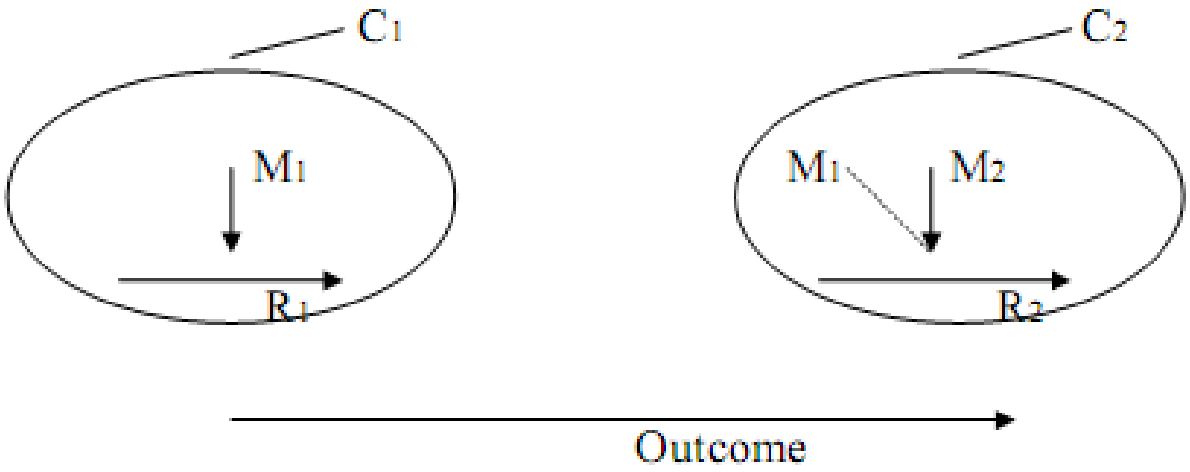


Figure 2: How programmes produce changes in regularity



An Example

- Closed Circuit TV in a Carpark

Possible mechanisms

- a) The 'caught in the act' mechanism: Detection
- b) The 'you've been framed' mechanism: perceived risk
- c) The 'nosy parker' mechanism. Increased usage
- d) The 'effective deployment' mechanism. More responsive security; faster deployment
- e) The 'publicity' mechanism: Symbolic message of taking crimes more seriously
- f) The 'time for crime' mechanism: Change in crime patterns; completion of crimes that happen very quickly.
- g) The 'memory jogging' mechanism. More car drivers lock their cars.
- h) The 'appeal to the cautious' mechanism. More cautious drivers end up using this car park; displacement

Possible context

- The ‘criminal clustering’ context.
  - Ratio of offender/offenses
- The ‘style of usage’ context.
  - If car park already packed, may not promote additional usage
- The ‘lie of the land’ context.
- The ‘alternative targets’ context.
- The ‘resources’ context.

Discussion 1

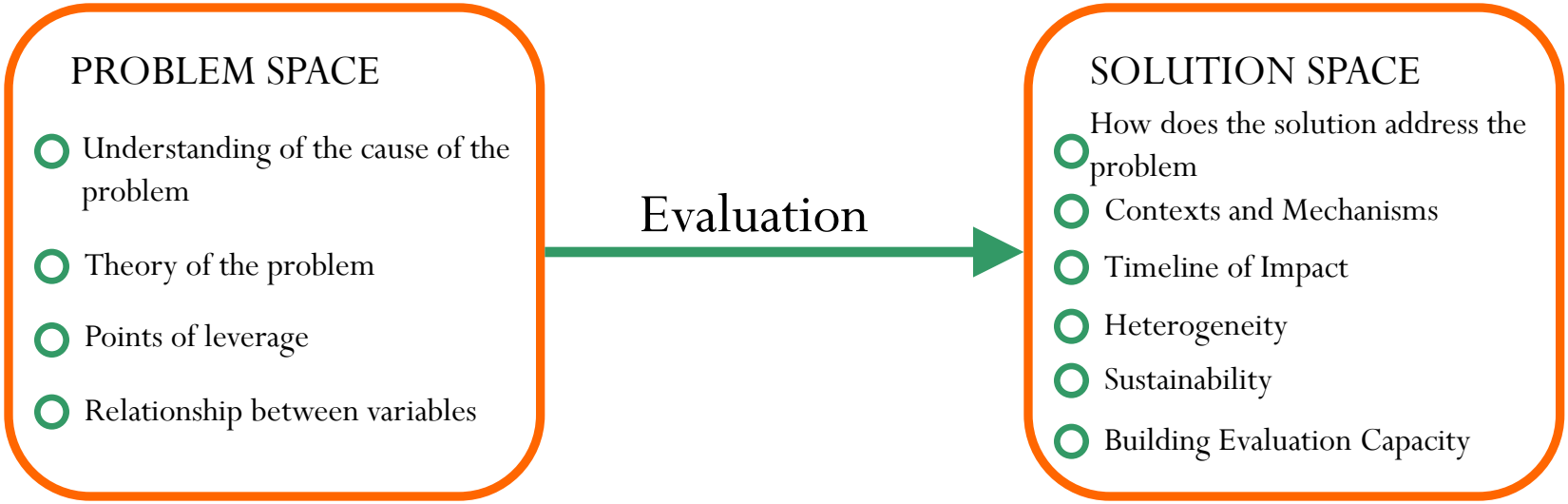
- Apply the ideas discussed to think of a program theory for a program of your choice. Briefly describe the causal chain

- Does developing an initial program theory help you formulate additional evaluation questions? Describe a couple of the evaluation questions

Understanding problem and solution spaces of health systems reform

- Where does evidence for health systems reform come from?
- Evidence for the problem
- How do solutions emerge from understanding of the problem?
- Do evaluations help you understand how to intervene better?
- How can evaluation help develop a systemic response to health care problems?

Problem and Solution Space



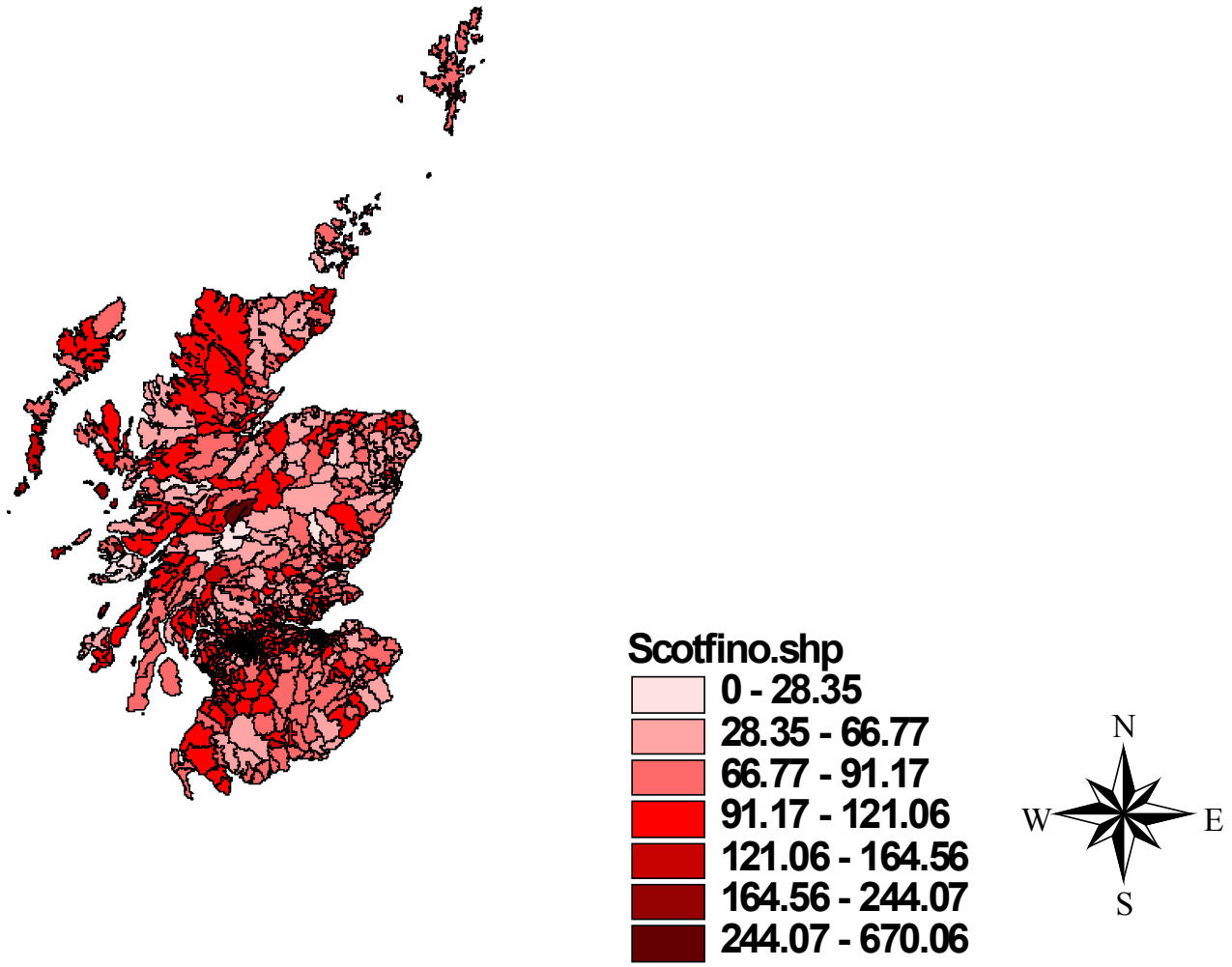
Solution Space

1. Focus of the intervention
2. Clarity and Stability of the proposed intervention
3. Consultation with Key Stakeholders
4. Prior experience with “similar” intervention
5. Program theory
6. Timeline of impact
7. Operational issues
8. Strategic Issues

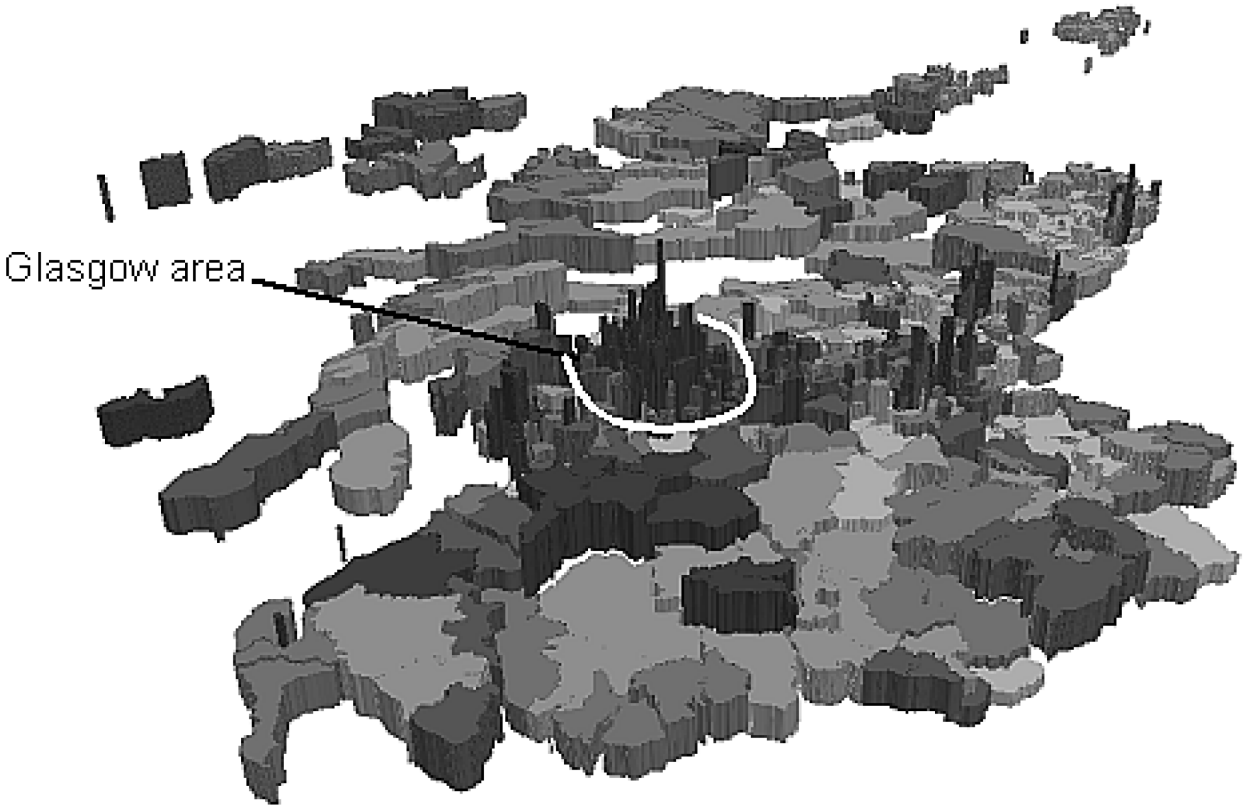
Key Questions

- What is the problem you are trying to solve?
- How precisely will the proposed program solve the problem?

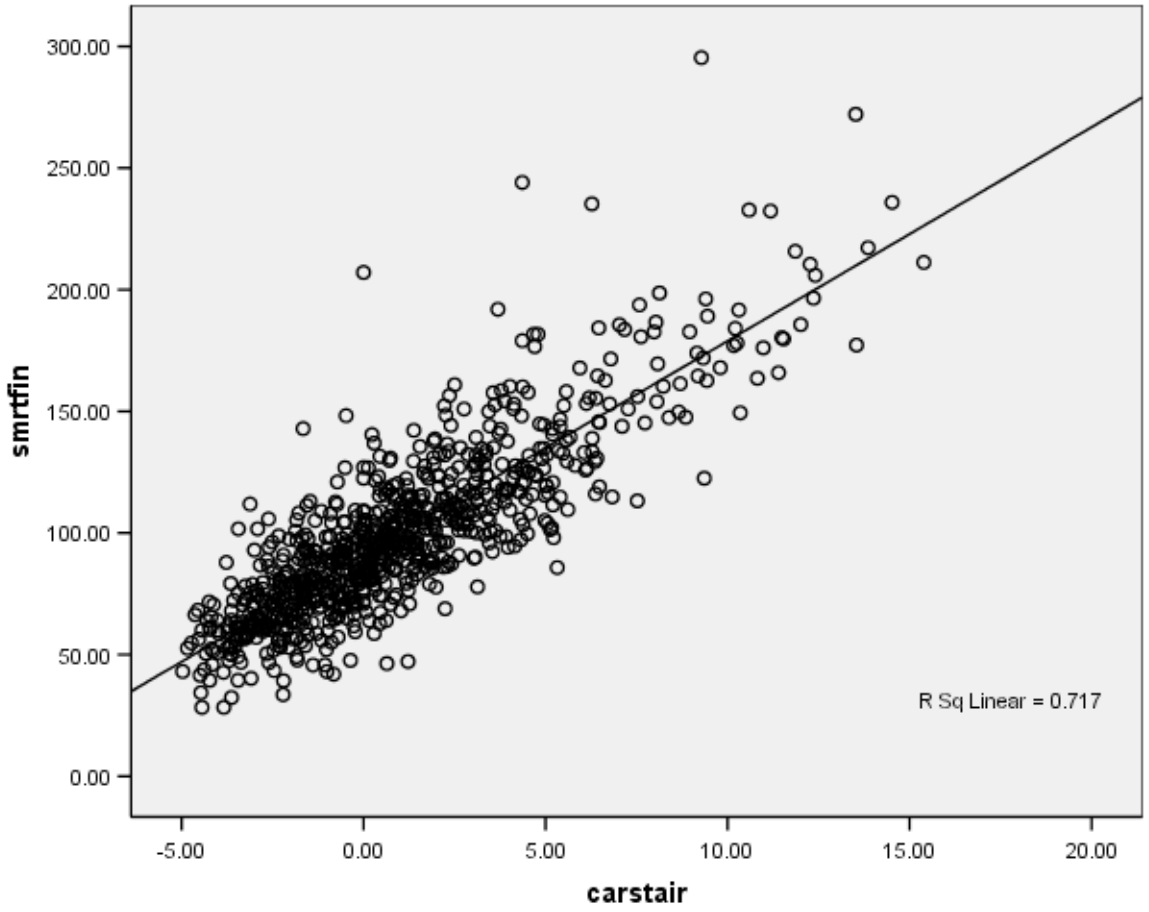
Distribution of Standardized Mortality Ratio



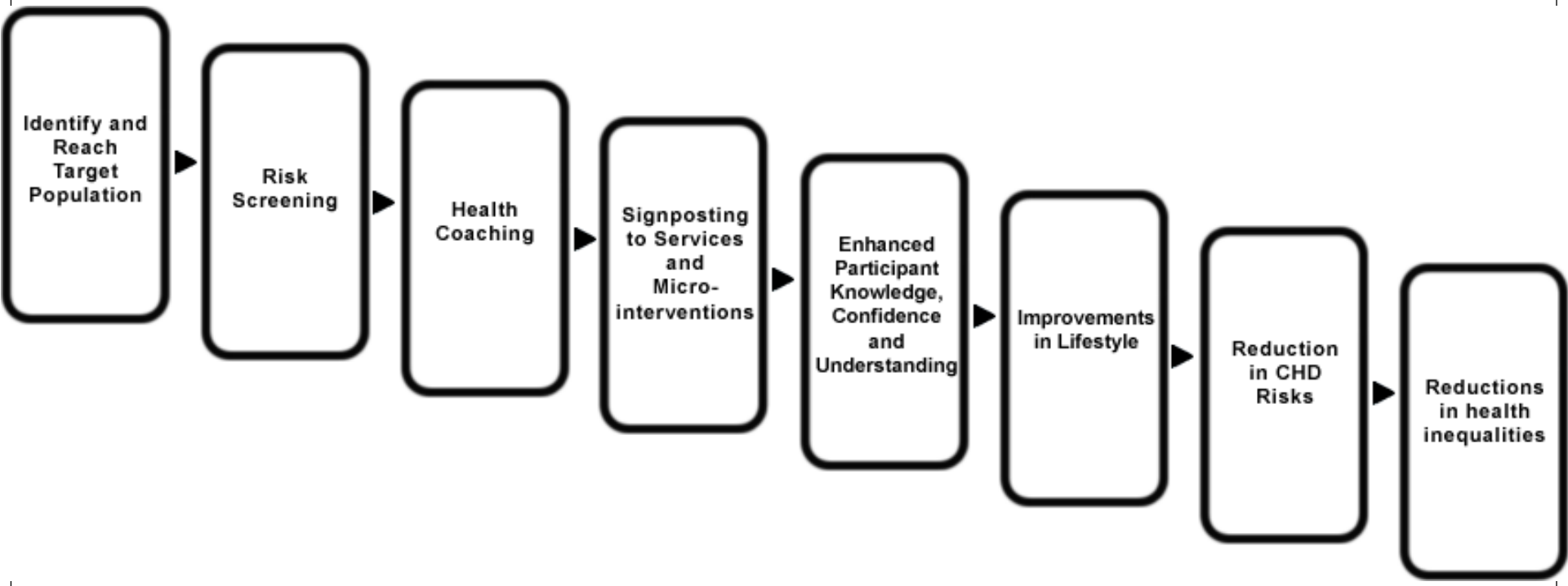
3-D rendering of SMR shaded by Carstairs score



Relationship between deprivation and mortality



An Example: Primary Prevention Have a Heart Paisley



Discussion 2

- Apply the thinking on problem and solution spaces to further develop your thinking on the program theory of the program of your choice. How will the proposed solution address the problems?

The rationale for health system reform

"Health is the cornerstone of comprehensive human development…assurance of health equity is now regarded as the key parameter for the social justice and fairness in the country…Accessibility of basic medical and health care services is a basic right of the people."

Chen Z, Gao Q. Health reform and development with Chinese characteristics: ensuring medical and health care services for each and every citizen. Qiushi, January 2008.

The good news of the performance of the health system (Liu et al. 2008)....

- "Not surprisingly, the health status of China's people, measured by broad population health indicators, has continuously improved. Life expectancy at birth increased from 67·9 years in 1981 to 71·4 years in 2000. From 1991 to 2005, the infant mortality rate fell from 50·2 to 19·0 per 1000 livebirths, and the maternal mortality rate declined from 88·9 to 47·7 per 100 000"

The not-very good news (Liu et al., 2008)

- Increase in self-reported morbidity rate and bedridden days from 1993 to 2003.
- The mismatch between increasing demand , inadequate supply of safe and effective health care, escalating medical costs, and absence of insurance coverage.

- Dramatic increase in dissatisfaction with health services

The Problem space of health system reform

- "market failures and insufficient government stewardship
  - Tang et al 2008

- "It's too difficult to see a doctor, and too expensive to seek health care!""
  - Hu et al 2008

The Challenge of a Solution Space of Health Equities

- "Health equity cannot be concerned only with health in isolation. Rather it must come to grips with the larger issue of fairness and justice in social arrangements, including economic allocations, paying attention to the role of health in human life and freedom."

  - Sen A. Why health equity? Health Econ 2002; 11: 659–66

Relationship between life expectancy and GDP in China (Tang et al 2008)

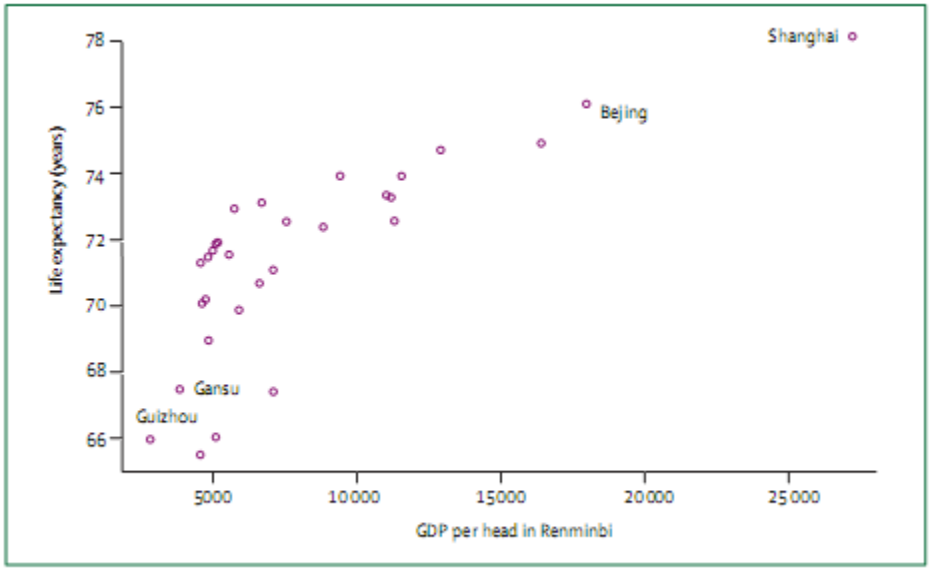


Figure 1: Life expectancy at birth by Gross Domestic Product (GDP) per capitaof 30 Chinese provinces in 2000[7]

Urban and Rural Inequities (Tang et al, 2008)

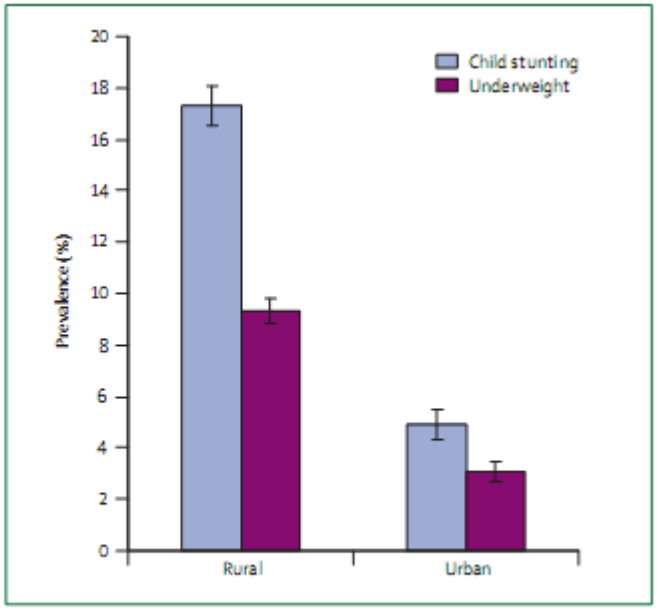


Figure 2: Disparities in child malnutrition betweenurban and rural area of China 2002[21]
Data are prevalence with 95% CI.

The Geographical dimensions of Health Inequities (Liu et al, 2008)

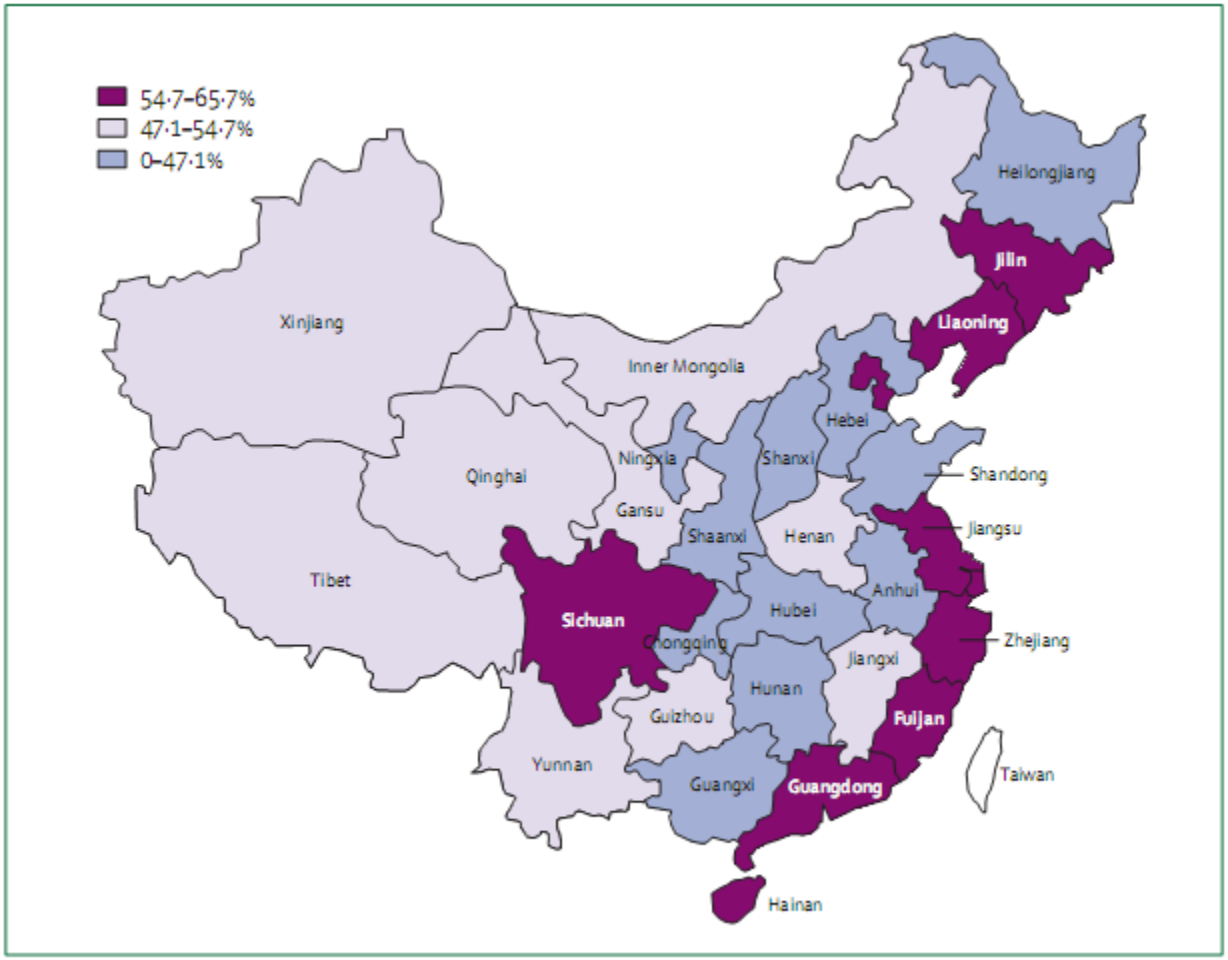


Figure 1: Health-system coverage in Chinese provinces in 2003

Different Types of Inequities (Tang et al., 2008)

- Rural vs. Urban Inequities
- Age and Demographic transitions:
  - "Demographic transitions are also producing new vulnerable groups at high health risk. China's population is ageing; the UN predicts that more than 453 million Chinese will be older than 60 years by 2050."
- Migration:
  - "Huge internal migration from rural to urban areas is estimated at about 140 million in 2005, 10% of the total population. Three-quarters of this migration is within provinces, and migrants do not have adequate access to education and health care"
- Gender
  - "China has also witnessed a resurgence of gender inequities. China has a major share of the world's "missing women". Amartya Sen coined the term missing women for severe shortages of women arising from neglect and bias against girls, which affect parts of Asia and north Africa."

The changes in health service usage over time

Figure 5: Use of health services outside hospital in last 2 weeks in China by lowest and highest income quintiles in urban and rural area[38]
Error bars indicate 95% CI.

Inequities in the social determinants of health (Tang et al 2008)

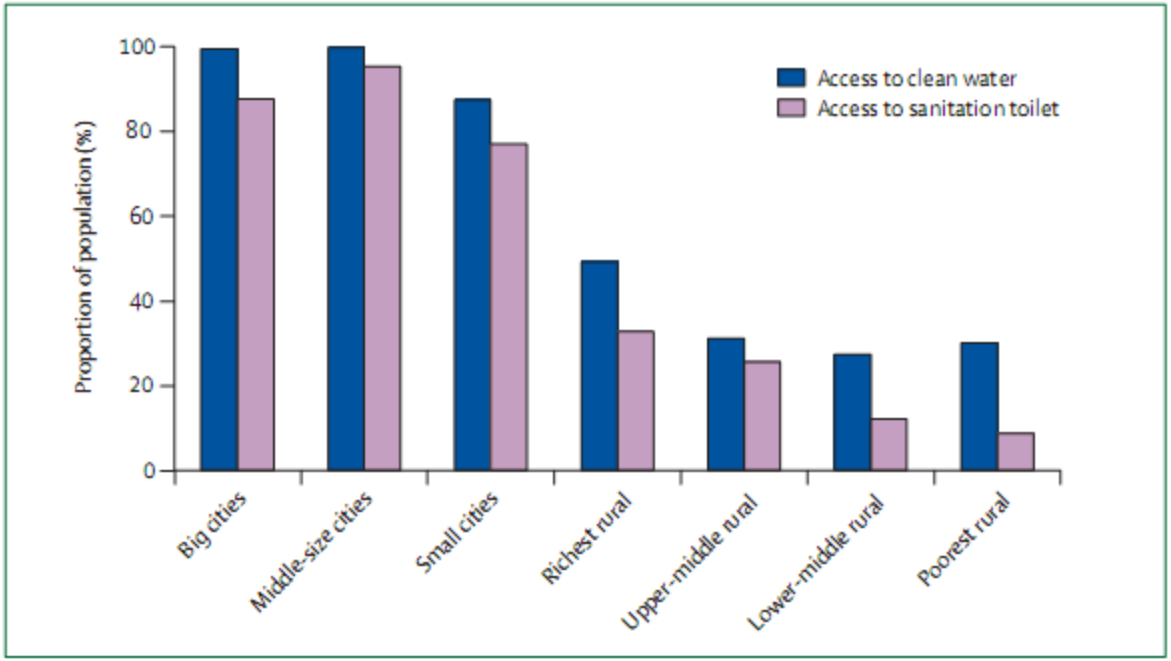


Figure 6: Percentage of population with access to clean water and sanitation in different areas in 2003[47]

The cost dimensions of the problem space (Hu et al, 1998)

- High out of pocket payments
  - "Not surprisingly, paying for health care has become a notable cause of impoverishment for households that lack adequate health insurance. More than 35% of urban households and 43% of rural households have difficulty affording health care, go without, or are impoverished by the costs"
- Inadequate insurance coverage
- Escalation of costs
- Inefficient use of resources
- Disparities between and within regions and provinces raise further concerns and are getting worse in some cases.

Lessons from other countries (Hu et al, 2008)

- Out-of-pocket payments should and can be reduced;
- Insurance coverage should and can be expanded;
- Escalating costs can be partly contained ;
- Inefficiencies can be corrected

Towards a rigorous evaluation of the health system (Liu et al. 2008)

- Performance System at the Provincial Level
  - "***Comprehensive analysis of health-system performance sub-nationally (eg, in provinces) is absent***. This is a crucially important unit of analysis, if not more important than the country-wide analysis, because of China's decentralised fiscal system."
- Paying attention to heterogeneities
  - "Furthermore, because substantial disparities exist in China's many socioeconomic dimensions, *the issue of how China's health system performs differently for different groups of people needs to be addressed.*"

Two key dimensions of the health system (Liu et al, 2008)

- Coverage
  - "Shengelia and colleagues argued that provision of health services can be assessed more comprehensively through the measure of coverage, which *they defined as the probability of people in need to receive services. Furthermore, effective coverage takes into account the quality of interventions delivered and aims to measure the estimated health gain associated with every health intervention.*"

Affordability

- Affordability
  - "Financial hardship caused by out-of-pocket payments has been measured in different ways in published studies. *Measurement of the impoverishing effect: if the income of a household has fallen below the poverty line after out-of-pocket payments for health care, then this household would be defined as being medically impoverished*."

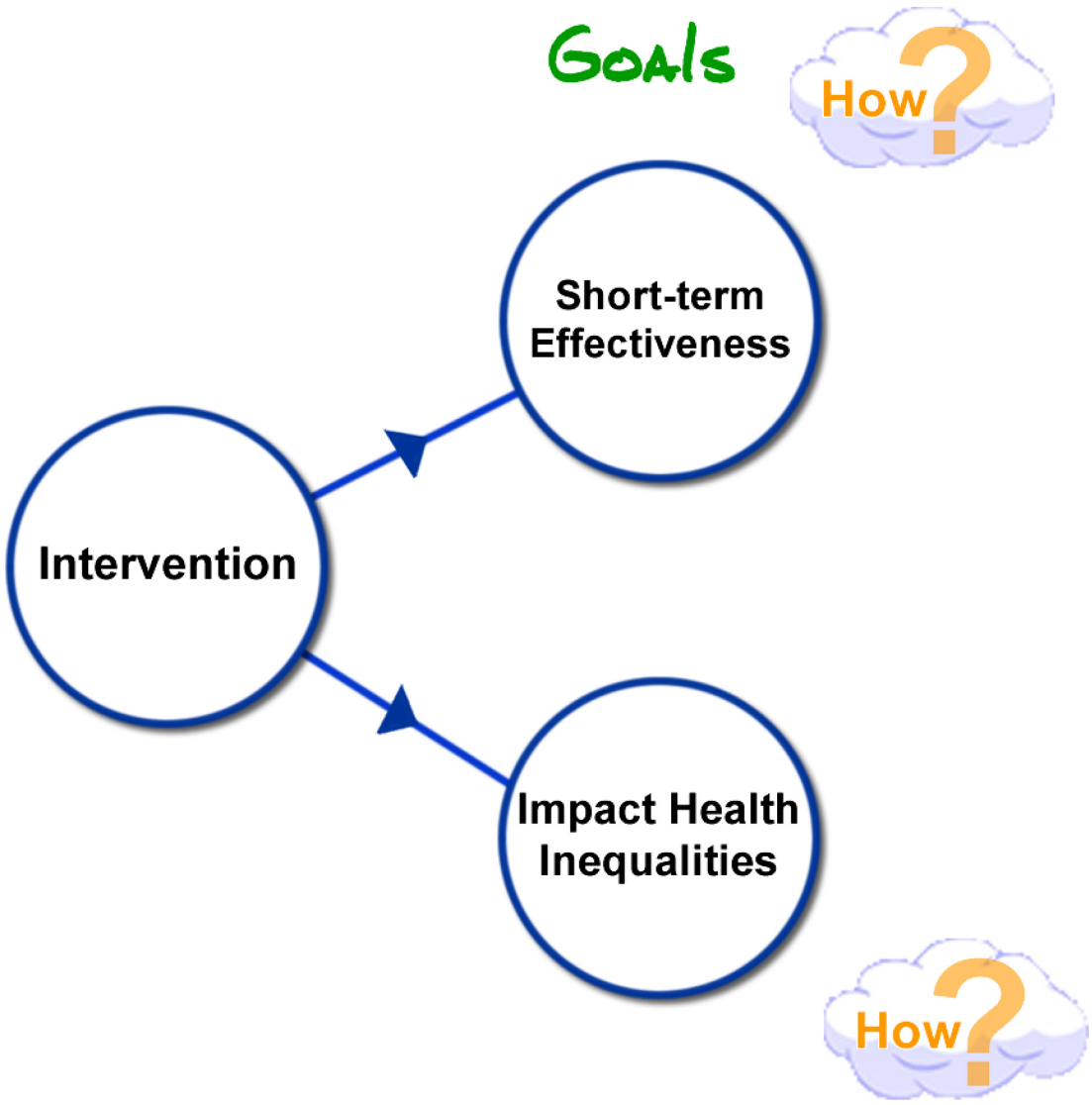
  - "Measurement of so-called catastrophic spending: if household's out-of-pocket payments for health care are equal or greater than 30–40% of the household's capacity to pay (disposable income minus food expenditure),or 10% of the household's income, then that household would be defined as having undergone catastrophic spending. *Here, we mainly adopt WHO's framework of effective coverage and catastrophic spending (30% of household capacity to pay) to measure China's health-system performance*"

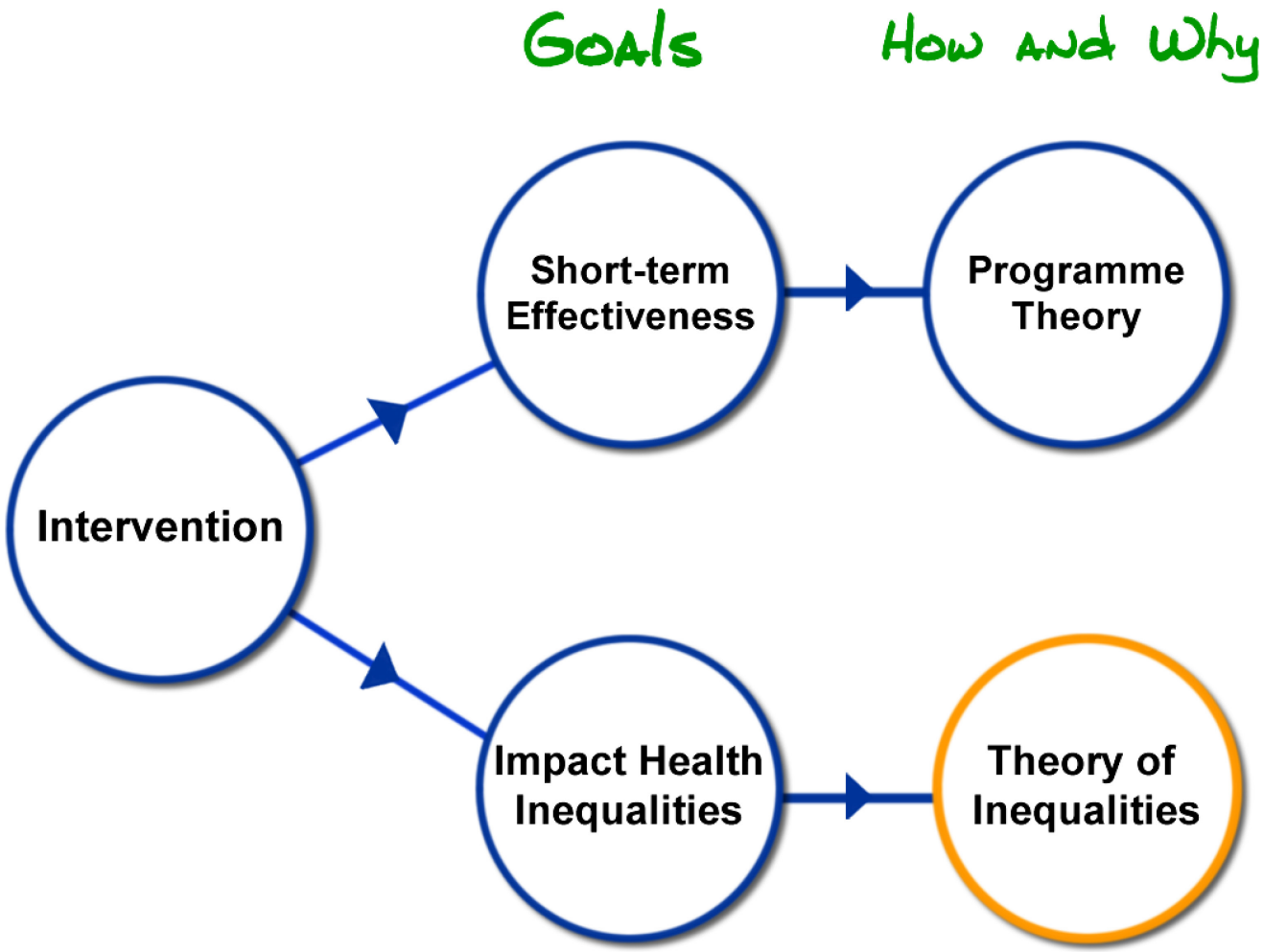
Discussion

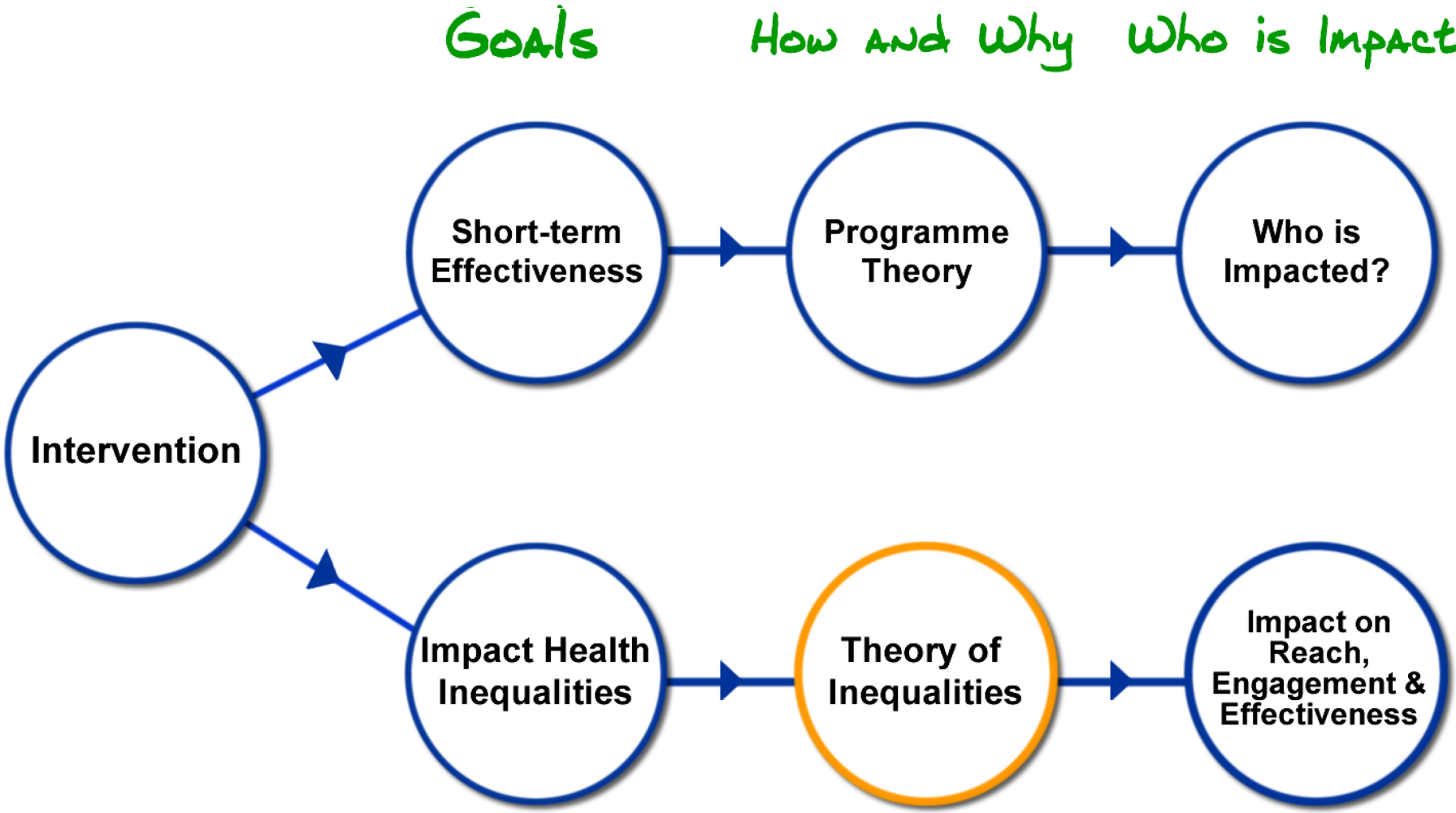
- How will Health Systems Reform address the multiple problems of health inequities? Will clinical pathways or other policies you are evaluating help address the problems of health inequities?

- What specific steps are being taken to address problems of health inequities?

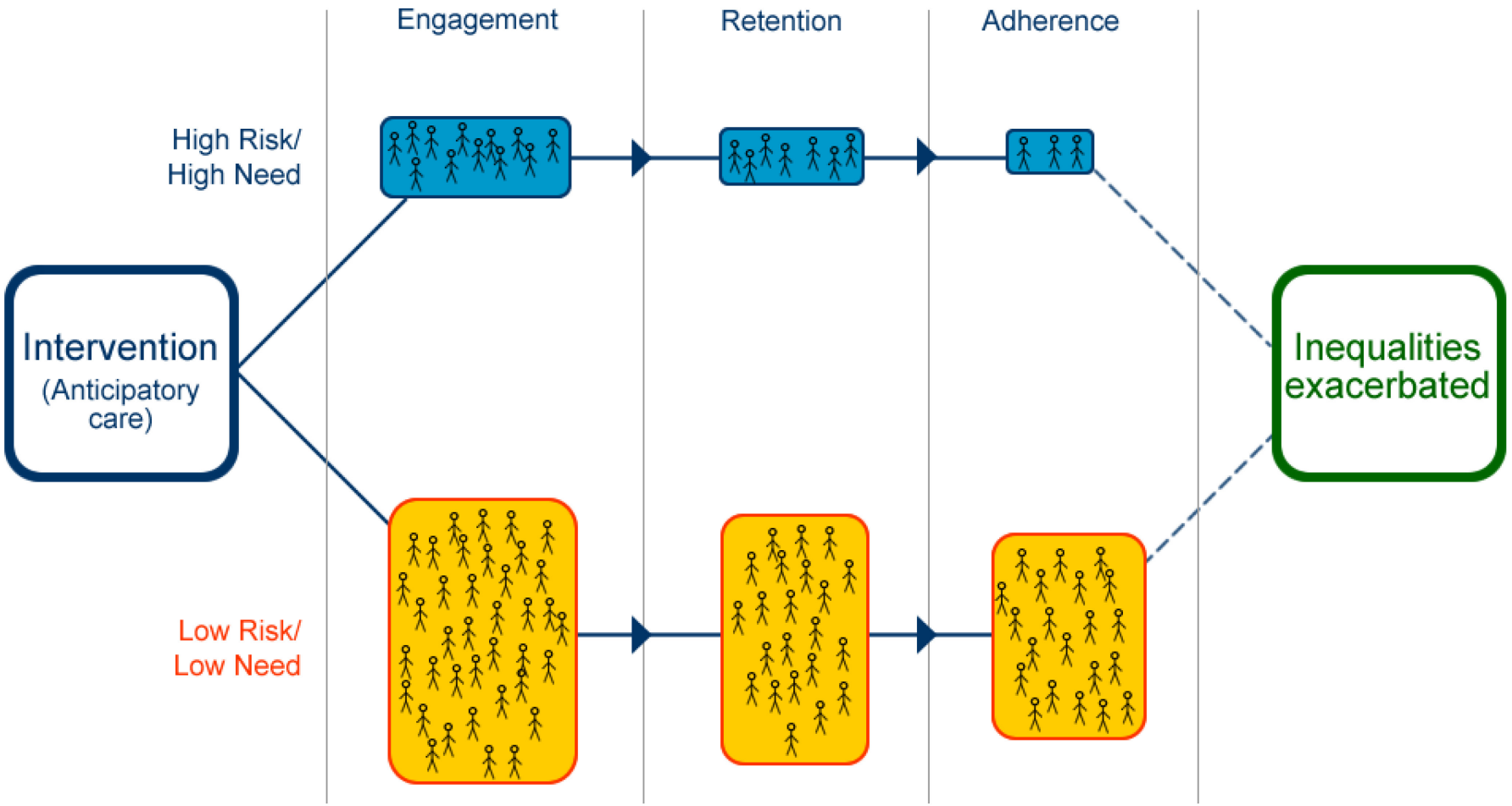
Evaluation and health inequities

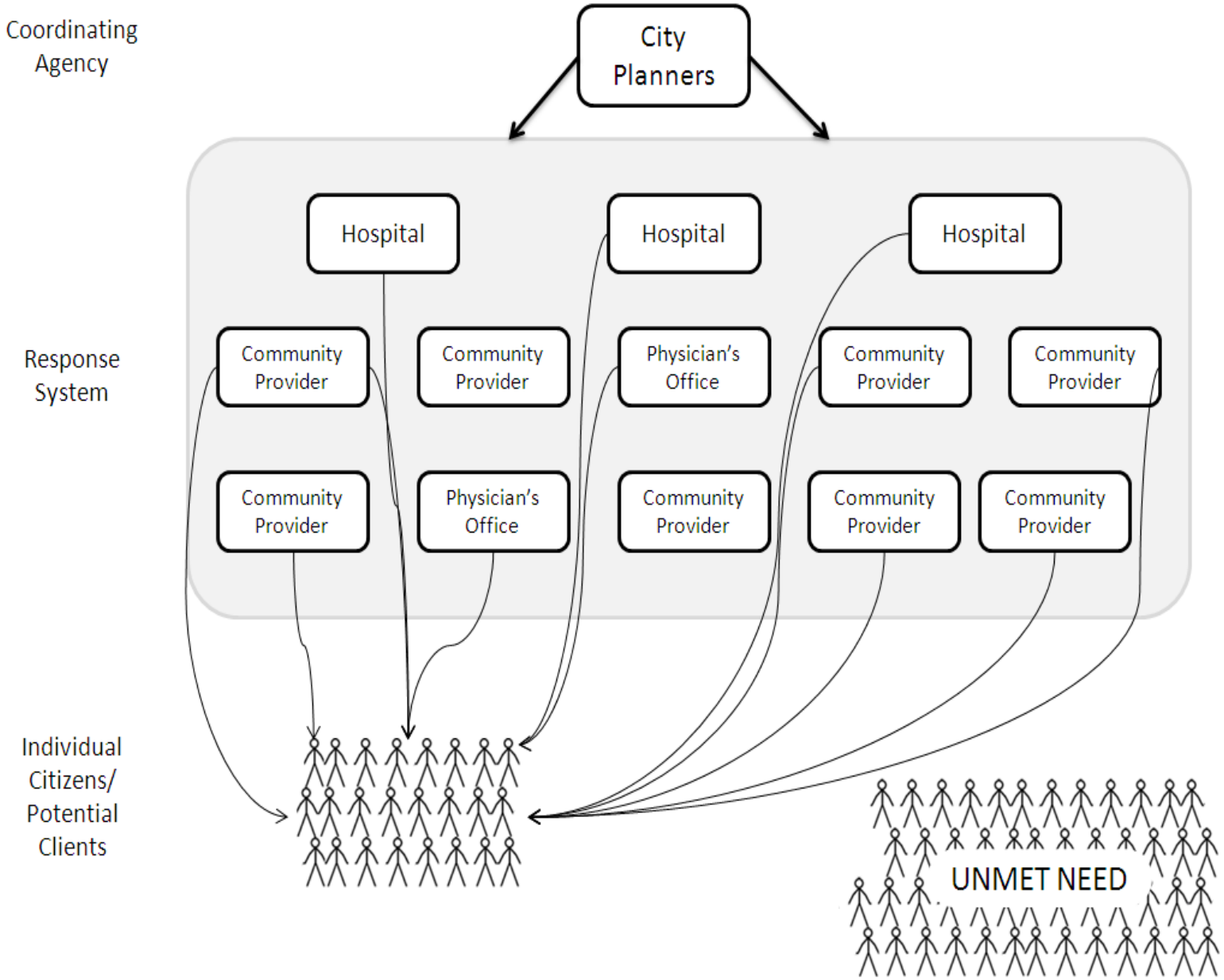

Goals
How?
Short-term Effectiveness
Intervention
Impact Health Inequalities
How?


Goals
How and Why
Short-term Effectiveness
Programme Theory
Intervention
Impact Health Inequalities
Theory of Inequalities


Goals
How and Why
Who is Impacted
Intervention
Short-term Effectiveness
Programme Theory
Who is Impacted?
Impact Health Inequalities
Theory of Inequalities
Impact on Reach, Engagement & Effectiveness

Who participates/consistently engages/ adheres with an intervention matters a lot for inequalities


Engagement
Retention
Adherence
High Risk/
High Need
Intervention
(Anticipatory
care)
Low Risk/
Low Need
Inequalities
exacerbated


Coordinating Agency
City Planners
Response System
Hospital
Hospital
Hospital
Community Provider
Community Provider
Physician's Office
Community Provider
Community Provider
Community Provider
Physician's Office
Community Provider
Community Provider
Community Provider
Individual Citizens/ Potential Clients
UNMET NEED

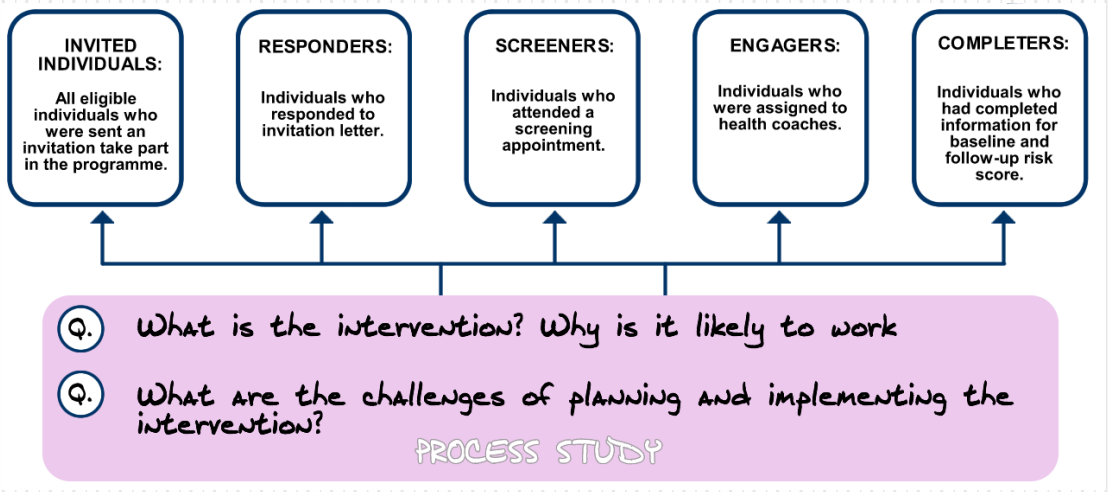
Definitions of health inequities

- differences in *health outcomes* that are avoidable, unfair and systematically related to social inequality and disadvantage
    - Gardner (2008)

- Equity in unmet need
- Equity in health care treatment
- Equity in experiences with health care treatment
- Equity in health outcomes

An application of these ideas to Have a Heart Paisley: Looking deeply into the inner mechanisms of programs


INVITED INDIVIDUALS:
All eligible individuals who were sent an invitation take part in the programme.
RESPONDERS:
Individuals who responded to invitation letter.
SCREENERS:
Individuals who attended a screening appointment.
ENGAGERS:
Individuals who were assigned to health coaches.
COMPLETERS:
Individuals who had completed information for baseline and follow-up risk score.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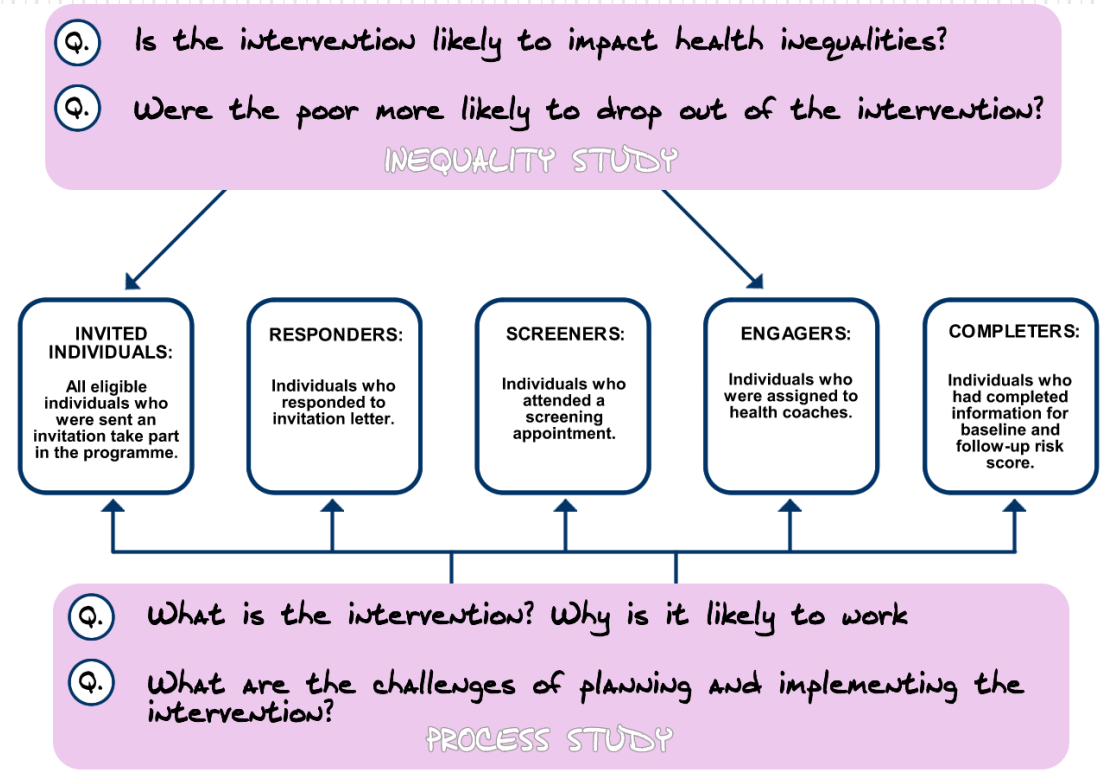
Q. What is the intervention? Why is it likely to work
Q. What are the challenges of planning and implementing the intervention?
PROCESS STUDY


Q. Is the intervention likely to impact health inequalities?
Q. Were the poor more likely to drop out of the intervention?
INEQUALITY STUDY
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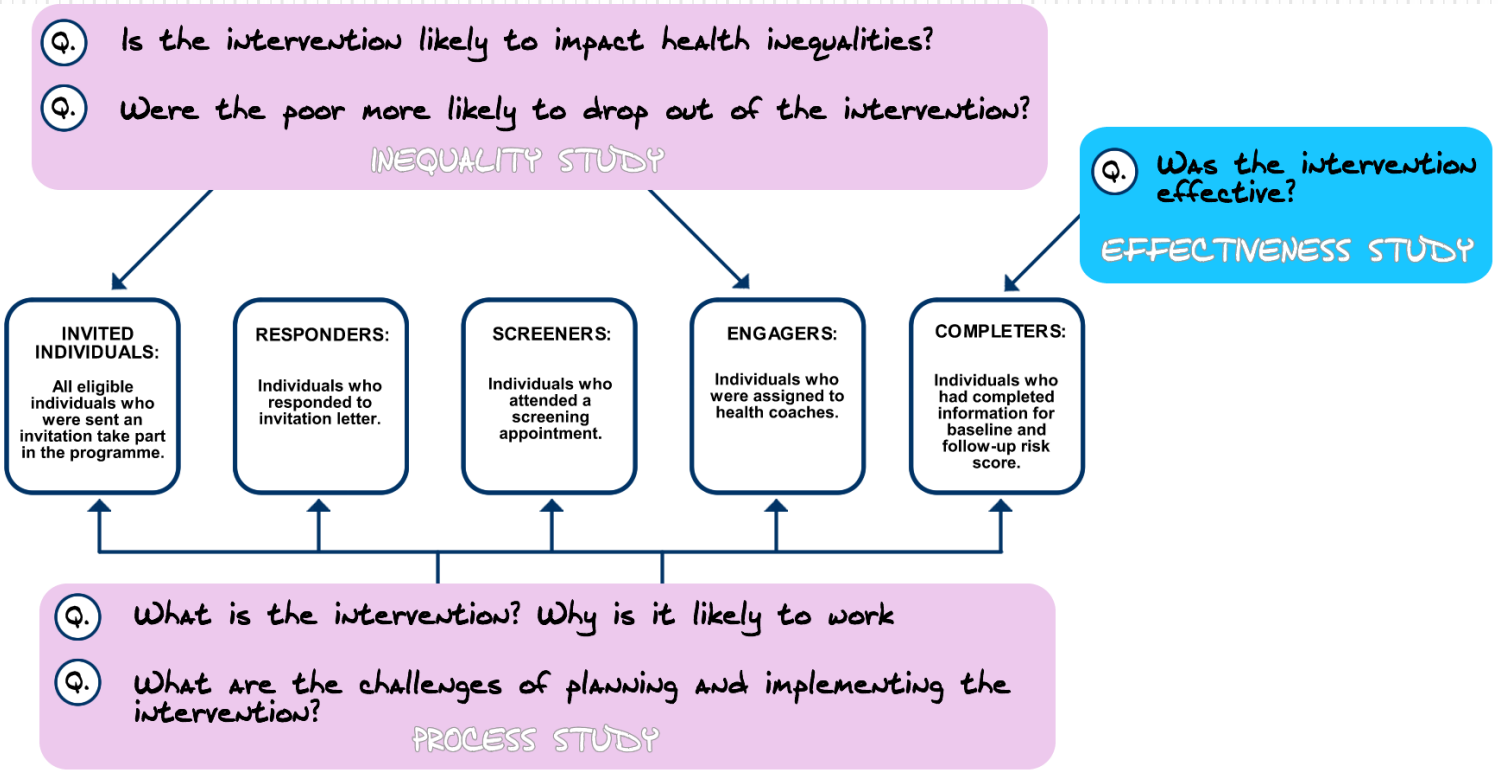
Q. Is the intervention likely to impact health inequalities?
Q. Were the poor more likely to drop out of the intervention?
INEQUALITY STUDY
Q. Was the intervention effective?
EFFECTIVENESS STUDY
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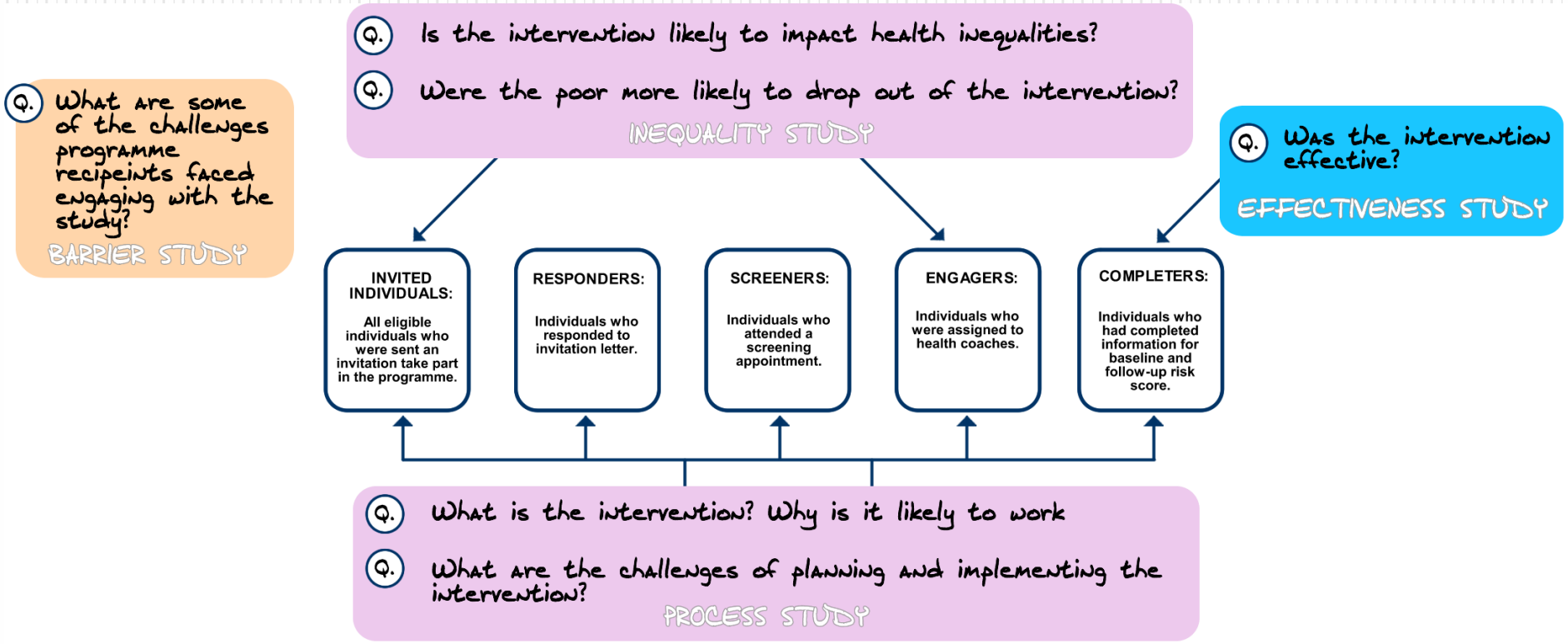
ENGAGERS:
Individuals who were assigned to health coaches.
COMPLETERS:
Individuals who had completed information for baseline and follow-up risk score.
Q. What is the intervention? Why is it likely to work
Q. What are the challenges of planning and implementing the intervention?
PROCESS STUDY


Q. What are some of the challenges programme recipeints faced engaging with the study?
BARRIER STUDY
Q. Is the intervention likely to impact health inequalities?
Q. Were the poor more likely to drop out of the intervention?
INEQUALITY STUDY
Q. Was the intervention effective?
EFFECTIVENESS STUDY
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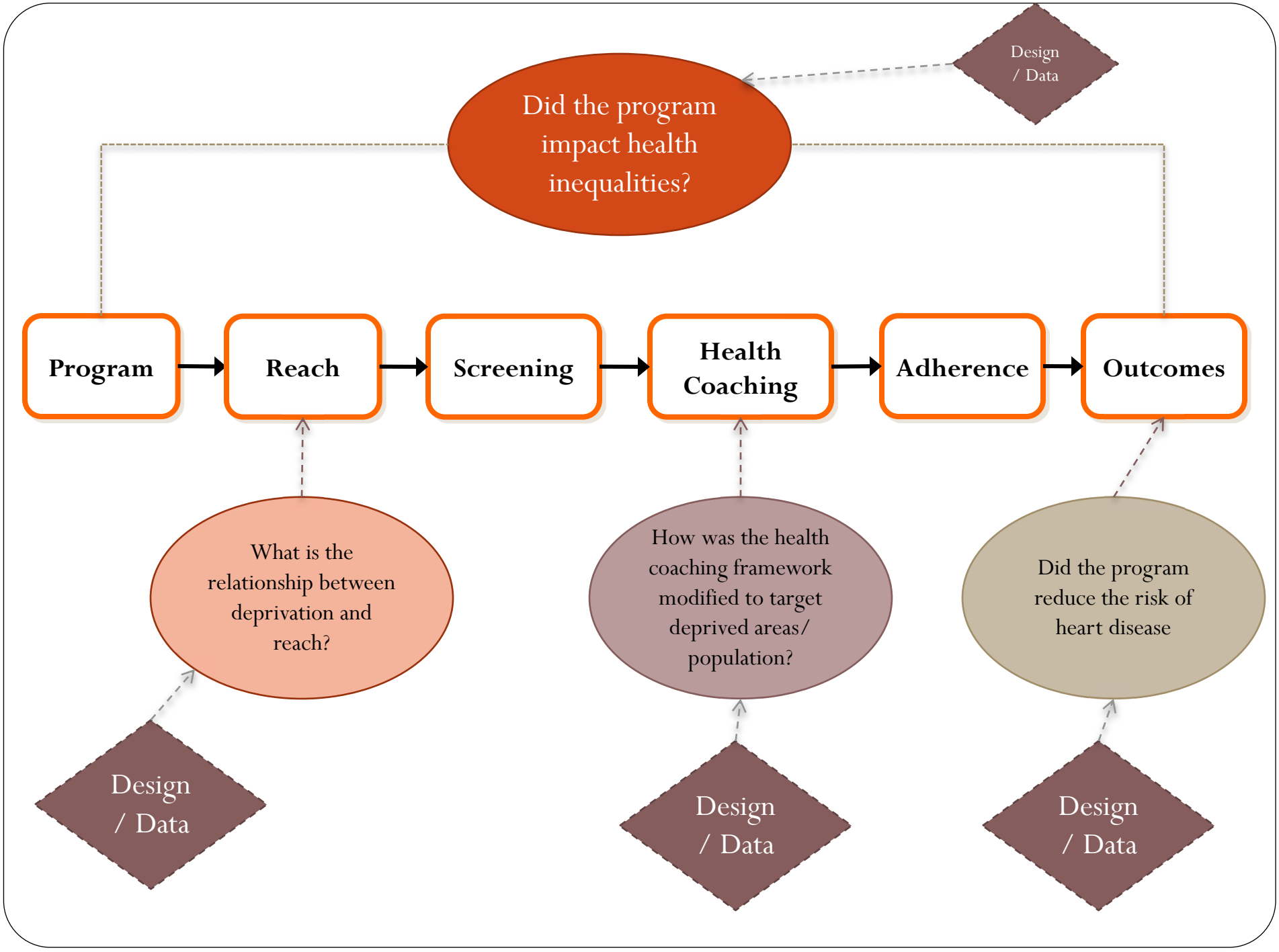
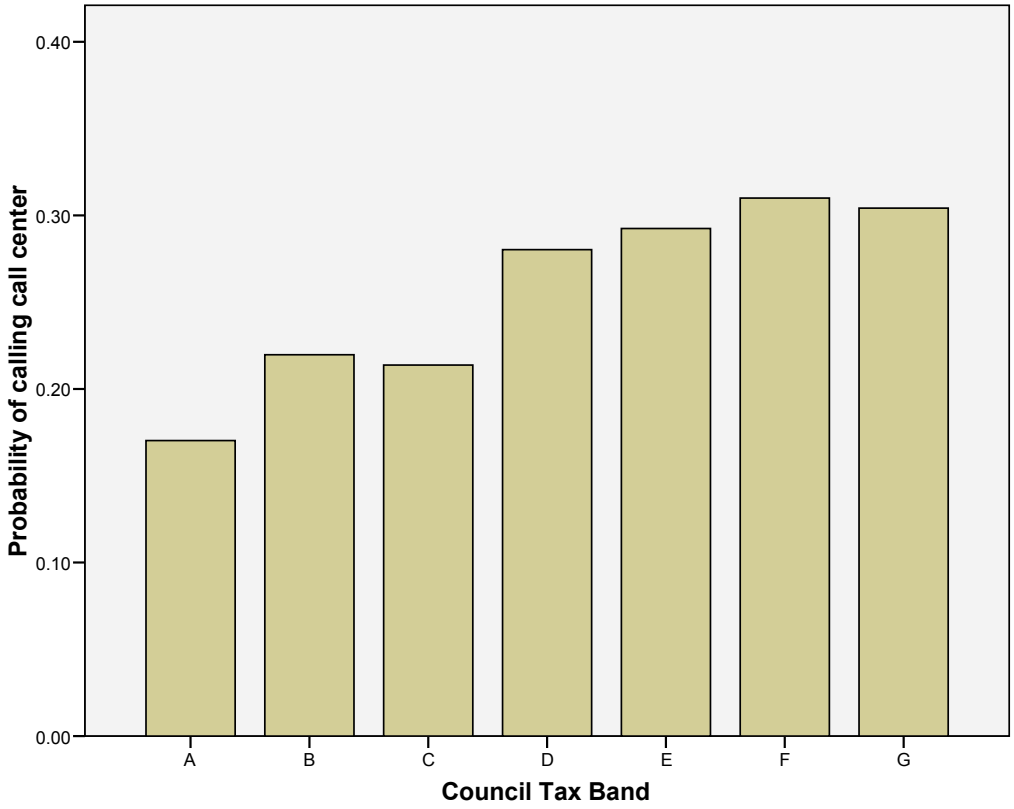
PROCESS STUDY


Design / Data
Did the program impact health inequalities?
Program
Reach
Screening
Health Coaching
Adherence
Outcomes
What is the relationship between deprivation and reach?
How was the health coaching framework modified to target deprived areas/ population?
Did the program reduce the risk of heart disease
Design / Data
Design / Data
Design / Data

Probability for calling the call centre council tax band



Program Staff

- *"we should have done some more community development. It shouldn't just have been a marketing strategy. We did do some but I think it needed to be a dual approach and we needed to get people out into the community to let them know, just to find out what the barriers of engagement as well as, you know, dispelling the myths about what it is we were expecting them to do"R9*
-
- *"Well the social marketing approach I didn't think worked. I think that a more, to reach the more deprived areas you would need like a more community development approach. R1 primary fgroup*

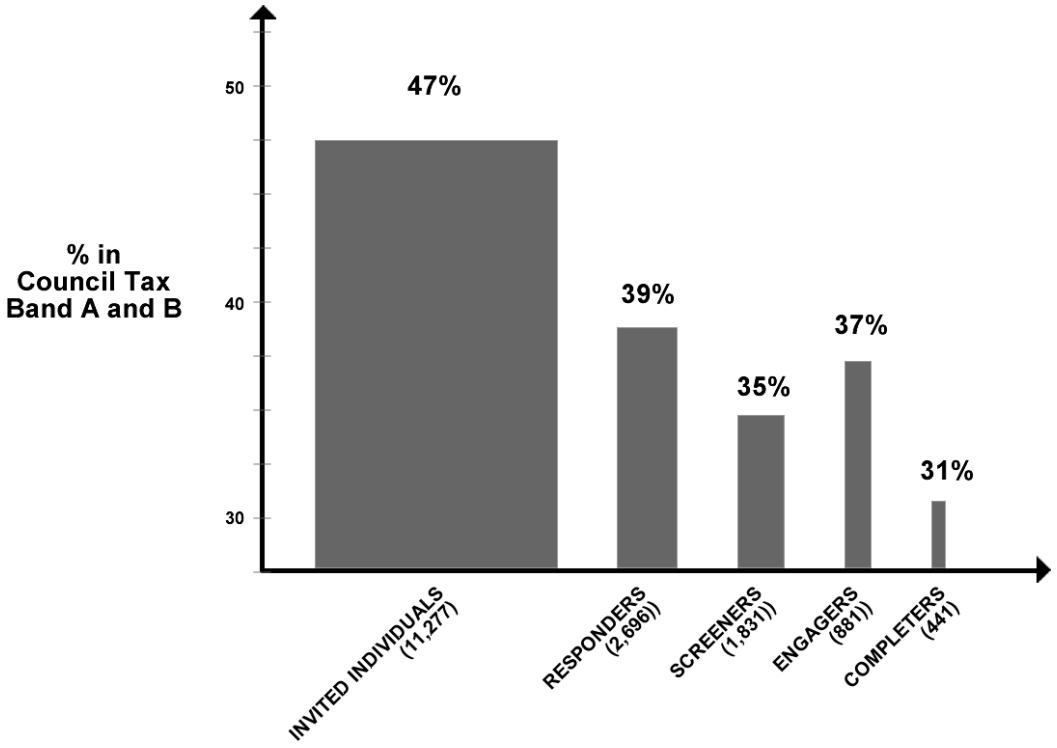
The original program plan

- "Have a Heart Paisley's activity is underpinned by the need to address the health inequalities gap in Paisley (see page 4) and the Phase 2 interventions will, where appropriate, focus upon people living in DEPCAT areas 6 and 7 who fall within the target population for Phase 2. The use of the CDR as a public health tool, the targeted health coaching, the local community development and unmet need activity, the consideration of deprivation in calculating a risk score for CHD and the promotion of positive mental health will combine to help HaHP tackle the socio-economic, gender and disability inequalities in the target population" (Have a Heart Paisley, 2005, p. 14).

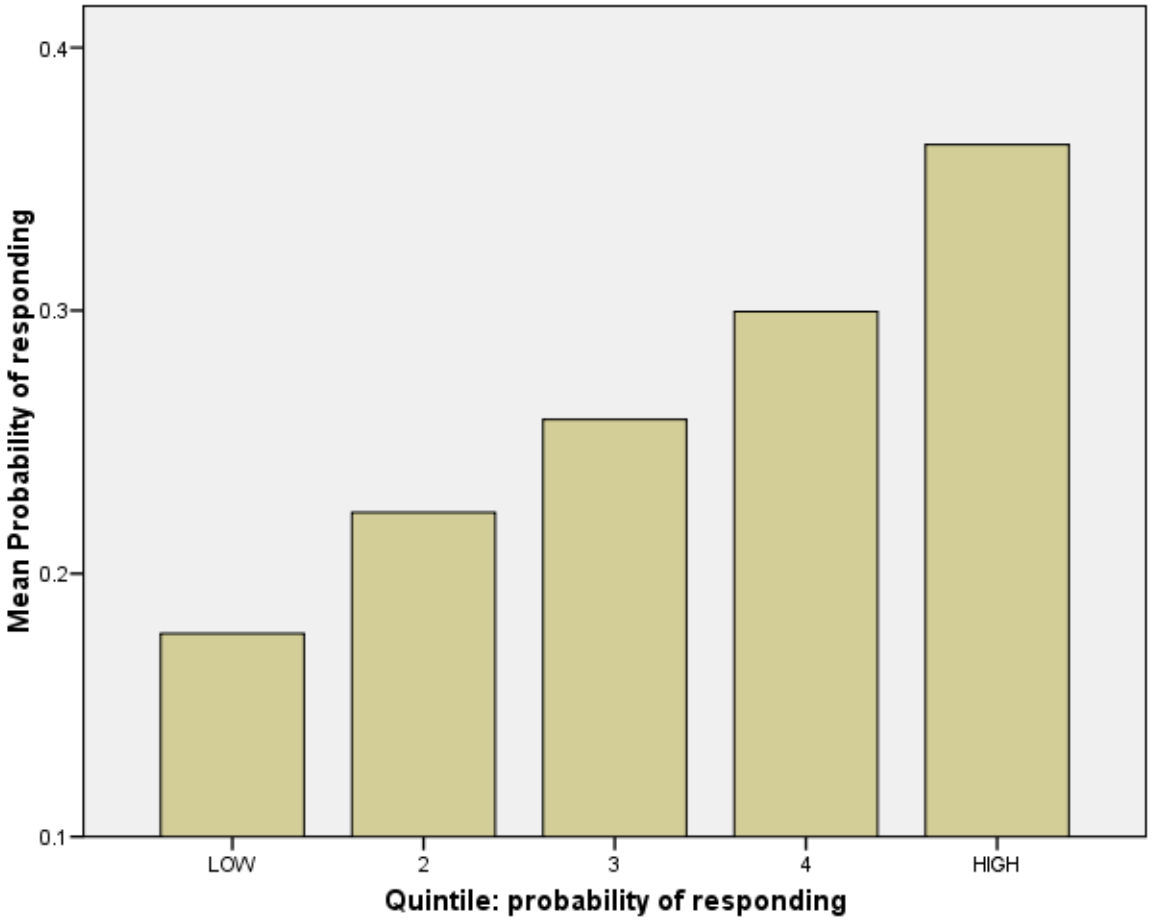
Feedback from program staff

- *Well the rationale around that was to do it through the GP surgeries and they felt that that was the most appropriate way to do and I think there was too much emphasis placed on the CDR that the CDR was the be all and end all and we could get all the information out of that. There is serious flaws in the CDR and it's not the CDRs fault; it's the GP surgeries who are not updating their records etc. etc. You've got lots of areas in Paisley who have undergone regeneration, people moving around, transient populations so obviously you're going to get a lot of people who don't even get the letter in the first place, and they're more likely to be the people that we're trying to reach because they're areas of regeneration, they're living in their council houses, their council houses are getting knocked down, they're getting moved, so you're no getting them. Completely missed out, that whole sector of the population.*

Percentage of Sample Living in Council Tax Band A and B (%)



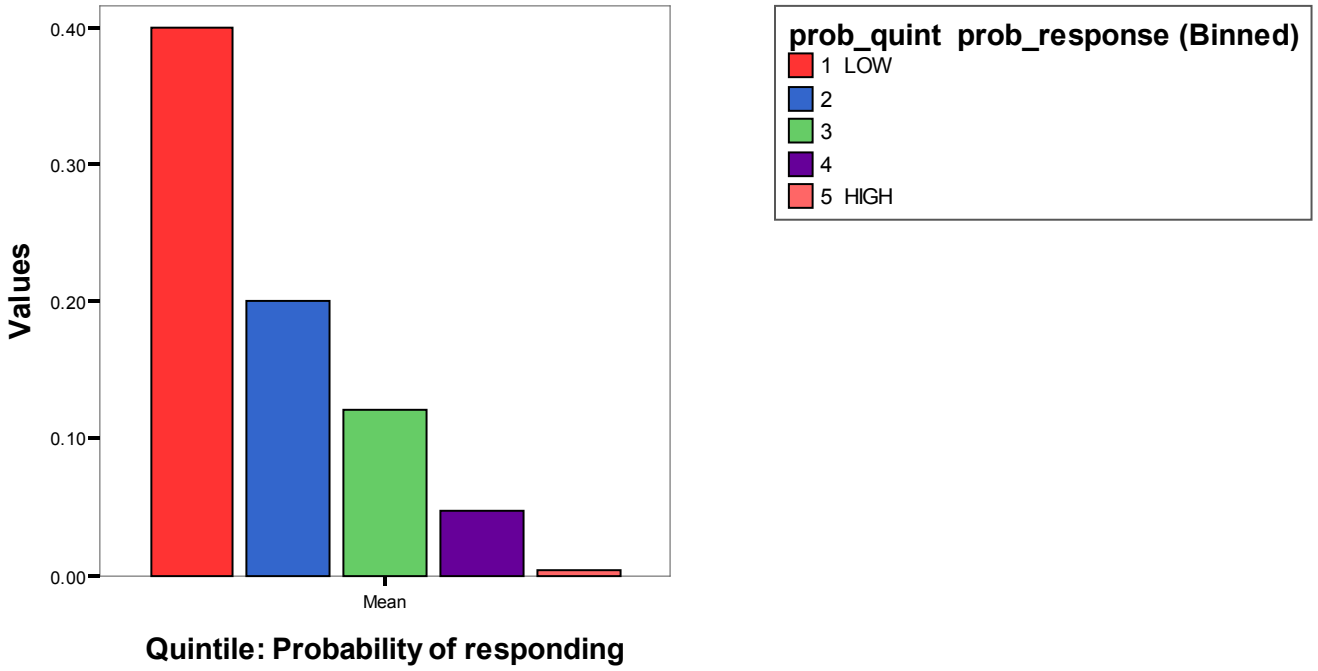
Quintile probability of responding

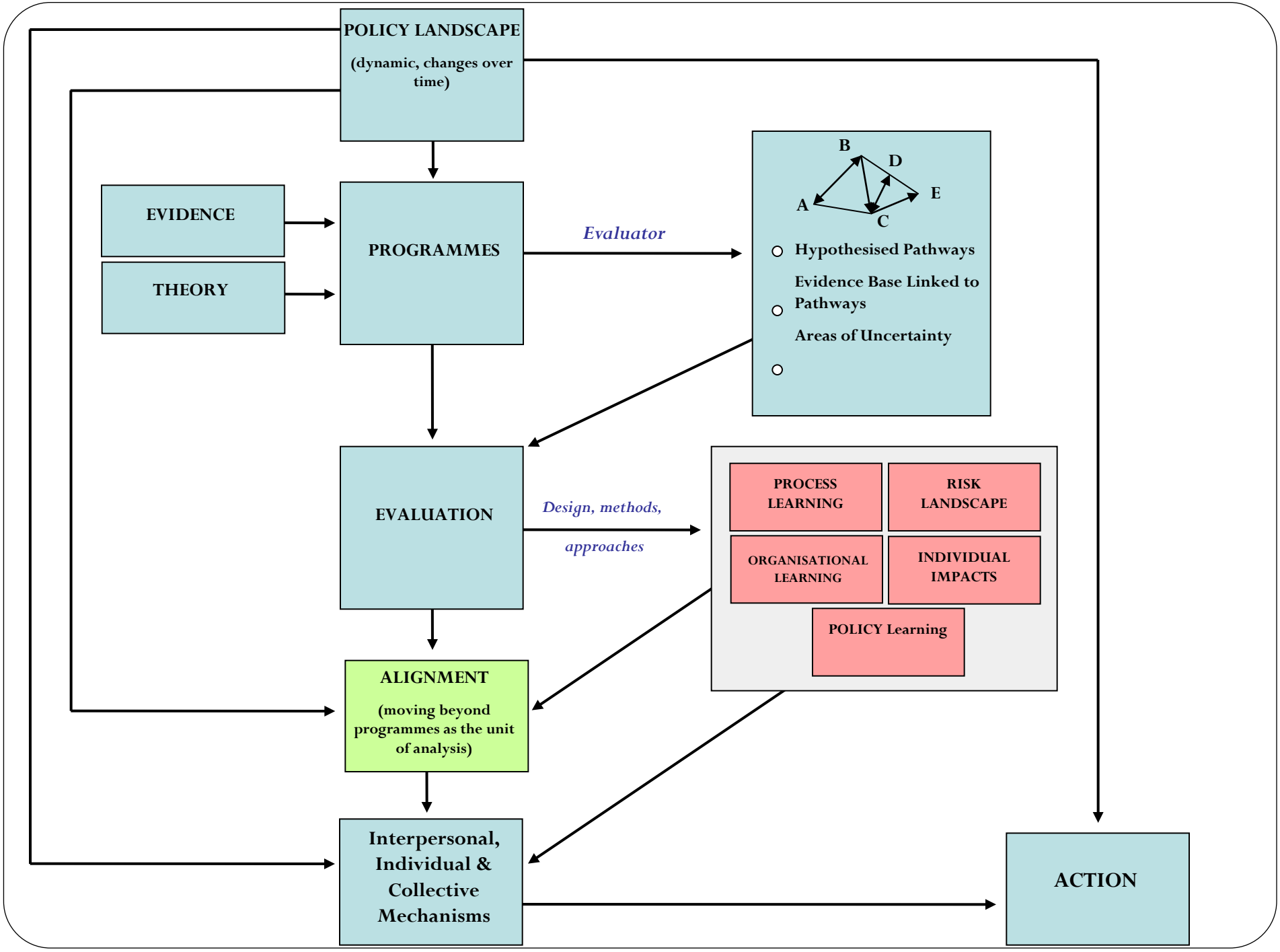


Response quintiles by council tax band A

Report

Variables : taxa




POLICY LANDSCAPE
(dynamic, changes over time)
EVIDENCE
THEORY
PROGRAMMES
Evaluator
B
D
E
A
C
Hypothesised Pathways
Evidence Base Linked to Pathways
Areas of Uncertainty
EVALUATION
Design, methods, approaches
PROCESS LEARNING
RISK LANDSCAPE
ORGANISATIONAL LEARNING
INDIVIDUAL IMPACTS
POLICY Learning
ALIGNMENT
(moving beyond programmes as the unit of analysis)
Interpersonal, Individual & Collective Mechanisms
ACTION

Discussion

- 1. **Forming Groups**
  - Form Groups of 5-6
  - Choose a program to evaluate that is of common relevance to your work

- 2. **Choosing a program/policy**
  - What problem is this program intended to address?
  - Have key stakeholders been consulted in discussing the scope of the problem?
  - How does the program attempt to ‘solve’ the problem?

Discussion (continued)

- **3. Program logic**
  - Develop a logic model for the program
  - Describe the causal chains by which the program is likely to work
  - Discuss the mechanisms by which the program will work
  - Under what contexts is the program most likely going to work?

- 4. **Health Inequities**
  - Will the program attempt to address problems of inequities? How ?

- 5**. Assessing Success**

  - How will you know if the program is successful? What outcomes are most likely to be impacted soon by the program? What outcomes are going to take time to be impacted?

  - What data will you collect to study if the program is successful?